Introduction

MCHIP-FP, in an effort to promote documented best practices, has supported the development of this annotated bibliography of postpartum family planning literature to serve as reference for both researchers and program managers.

This updated bibliography of postpartum family planning is an addendum to the May 2010 version and mostly represents literature published in the last two years. Over ninety new entries are included. The literature has been reorganized for this edition, and new categories for prenatal and newborn health have been added. The literature categories are described in the following table.

<table>
<thead>
<tr>
<th>Categories</th>
<th># of Studies</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptive studies</td>
<td>12</td>
<td>3-11</td>
</tr>
<tr>
<td>2. Community- and facility-inclusive intervention studies</td>
<td>6</td>
<td>12-16</td>
</tr>
<tr>
<td>3. Lactation amenorrhea method and breastfeeding for contraception</td>
<td>10</td>
<td>17-25</td>
</tr>
<tr>
<td>4. HIV and family planning, and prevention of mother-to-child transmission (PMTCT) related to postpartum contraception</td>
<td>9</td>
<td>26-33</td>
</tr>
<tr>
<td>5. Birth spacing</td>
<td>4</td>
<td>34-36</td>
</tr>
<tr>
<td>6. Postpartum intrauterine devices (IUDs) and long-lasting and permanent contraception</td>
<td>15</td>
<td>37-49</td>
</tr>
<tr>
<td>7. Program approach (including male involvement with postpartum contraception) and other relevant studies in postpartum contraception</td>
<td>3</td>
<td>50-52</td>
</tr>
<tr>
<td>8. Family planning integration</td>
<td>3</td>
<td>53-55</td>
</tr>
<tr>
<td>9. Return to fertility</td>
<td>2</td>
<td>56-57</td>
</tr>
<tr>
<td>10. Progestin-only contraception</td>
<td>5</td>
<td>58-62</td>
</tr>
<tr>
<td>11. Postpartum family planning in special populations</td>
<td>11</td>
<td>63-70</td>
</tr>
<tr>
<td>12. Prenatal and Newborn Health</td>
<td>16</td>
<td>71-83</td>
</tr>
</tbody>
</table>
Methodology

This edition focused primarily on journal articles published in 2010 or later with an emphasis on studies that were undertaken in developing countries. The literature review began with a search on Medline (2010–current update) using the following keywords: family planning services, family planning policy, contraception, birth intervals, prenatal care, postnatal care, postpartum period, maternal-child health, immunizations, and breastfeeding. This search was then repeated on CINAHL (a database for nursing and allied health) and EMBASE (a database of biomedical and pharmacological literature). Next, the reference lists of the selected articles were examined for appropriate articles that had not been captured with previous searches or by the May 2010 version.
1. DESCRIPTIVE STUDIES


Objectives: To assess contraceptive knowledge, use of emergency contraception (EC) and the motives of women seeking induced abortion.

Methods: A descriptive and cross-sectional study conducted at the T. C. Izmir Dr. Hayri Ekrem Ustundag Gynaecology and Maternity Hospital and the Izmir Ataturk Research and Teaching Hospital, Turkey. The research sample consisted of 440 women who requested an abortion between January and May 2010, and voluntarily agreed to participate.

Results: Sixty-two percent of the women became pregnant while using family planning (FP) methods. The contraceptive used by 42% was the condom, and 45% believed that they had become pregnant because of improper use of the contraceptive. Ninety-three percent had never used EC. Thirty-seven percent wanted their pregnancy terminated because they did not want another child, whereas 26% viewed induced abortion as a method of FP. Sixty-nine percent of the women received FP counseling from health professionals, and 80% found the information provided adequate.

Conclusion: The women assessed were insufficiently knowledgeable about FP in general and EC in particular. Many had become pregnant as a result of inaccurate information. (Atan et al., 2011 Abstract)

Cleland JG ; Ndugwa RP ; Zulu EM (2011) Family planning in sub-Saharan Africa: progress or stagnation? Bull World Health Organ. 89(2):137-43 (ISSN: 1564-0604)

OBJECTIVE: To review progress towards adoption of contraception among married or cohabiting women in western and eastern Africa between 1991 and 2004 by examining subjective need, approval, access and use.

METHODS: Indicators of attitudes towards and use of contraception were derived from Demographic and Health Surveys, which are nationally representative and yield internationally
comparable data. Trends were examined for 24 countries that had conducted at least two surveys between 1986 and 2007.

FINDINGS: In western Africa, the subjective need for contraception remained unchanged; about 46% of married or cohabiting women reported a desire to stop and/or postpone childbearing for at least two years. The percentage of women who approved of contraception rose from 32 to 39 and the percentage with access to contraceptive methods rose from 8 to 29. The proportion of women who were using a modern method when interviewed increased from 7 to 15% (equivalent to an average annual increase of 0.6 percentage points). In eastern African countries, trends were much more favourable, with contraceptive use showing an average annual increase of 1.4 percentage points (from 16% in 1986 to 33% in 2007).

CONCLUSION: In western Africa, progress towards adoption of contraception has been dismally slow. Attitudinal resistance remains a barrier and access to contraceptives, though improving, is still shockingly limited. If this situation does not change radically in the short run, the United Nations population projections for this subregion are likely to be exceeded. In eastern Africa, the prospects for a future decline in fertility are much more positive. (Cleland et al., 2011 Abstract)

Contraception 83 (3)238-241

Background: The postpartum time is a unique time to address patient's contraceptive needs and provide education. There are little data to suggest the best approach to provide information about contraception after delivery.

Study Design: Postpartum patients in an urban university hospital were asked to complete a written survey on postpartum contraception. Participants were asked about contraception counseling offered both antepartum and postpartum. Participants were also asked if they would have elected to have an intrauterine device (IUD) inserted immediately after delivery. Participants were contacted 4-6 months after delivery regarding ongoing contraceptive use.

Results: One hundred seventy-five surveys were completed; 77% (134) reported discussing contraception antepartum, and 87% (153), postpartum. Thirty percent of women reported
discussing IUD insertion at an antepartum visit and 31% reported discussing it in the hospital prior to discharge. Twenty-three percent (39) of women would have elected immediate post-placental IUD placement if available. Of the 59 patients who were able to be contacted 4-6 months after delivery, 5% reported using an IUD. Twenty-two percent (13) of the participants contacted at follow-up still desired an IUD, of which 62% would have elected post-placental placement, if available. Twenty-nine percent of women reported using no contraceptive method and 32% reported using a method which is not highly effective.

**Conclusions:** Prenatal visits and postpartum contact with providers create an opportunity to discuss family planning and contraception and most patients report receiving counseling. However, significantly fewer reported continued contraceptive use at 4-6 months postpartum. Initiation of post-placental IUD placement would be acceptable and would increase contraceptive use at 6 months postpartum. (Glazer et al., 2011 Abstract)


The timely initiation of contraception postpartum is an important consideration for breastfeeding and non-breastfeeding women; many women prefer oral contraceptive pills to other methods. In breastfeeding women, combined hormonal pills are not recommended prior to 6 weeks postpartum, due to effects on milk production. Although progestogen-only pills do not adversely affect milk, lack of data regarding possible effects on infants exposed to progestogens in breast milk renders timing of initiation of this method controversial. In non-breastfeeding women, elevated risk of venous thromboembolism restricts use of combined hormonal pills prior to 21 days postpartum. From 21 to 42 days, use of combined hormonal pills should be assessed based on a woman's personal venous thromboembolism risk profile; after 42 days postpartum there is no restriction in the use of combined hormonal pills for otherwise healthy women. Non-breastfeeding women may safely use progestogen-only pills at any time during the postpartum. (Jackson E., 2011, Abstract)

**Lance A; McGuire J.J; Dalton V. (2010) Predictors of patient use of highly effective postpartum contraception. Contraception, 82(2), 191.**
Objectives: To identify patient and health service factors associated with using highly effective contraception postpartum.

Method: Women delivering at a university hospital in Michigan were recruited for participation. We used a combination of a patient survey and medical record review to identify predictors of highly effective contraception use post-partum. Bivariate relationships were examined using t-tests and chi-square. Logistic regression will be used to identify predictors of highly effective contraception use at 3 months postpartum.

Results: We enrolled 185 women, representing a participation rate of 72%. Seventy-six percent of participants reported antenatal counseling about postpartum contraception, and 56% reported an antenatal plan to use highly effective contraception post-partum. At 3 months post-partum, 40% of these patients had no documentation of method provision. Patient age, parity, and insurance type were associated with planning to use highly effective contraception (p<.001). Provider type and antenatal counseling by a health care provider were associated with planning to use an effective method, and with actual method provision at their postpartum visit (p<.001). Although most patients reported that the best time to discuss contraception is during the antenatal period, almost 20% reported that the best time was while they were in the hospital postpartum. Logistic regression will be used to further characterize factors associated with post-partum contraception use patterns.

Conclusions: Helping women make choices about postpartum contraception may increase the use of effective methods. Recognizing that other women may prefer to delay this decision, adequate counseling should be provided at other times to accommodate variation in patient preferences.

(Lance et al., 2010, Abstract)

Postpartum contraceptive needs in northern Haiti. International Journal of Gynecology and Obstetrics, 112(3) 239

Objective: To assess the knowledge of, attitudes toward, and practices regarding postpartum contraception among healthcare providers and postpartum women in northern Haiti.
Methods: Six focus groups were conducted with postpartum patients and 3 were conducted with maternity service providers; a structured questionnaire was then administered to postpartum patients.

Results: In total, 282 postpartum women were included in the present study: 249 in the survey and 33 in focus groups. Although 97.9% of women expressed a desire for family-planning counseling before discharge from the postpartum ward, only 6.0% of women received such counseling. Most women wanted to space or limit their pregnancies; 79.8% of women, including those with only 1 child, wanted to choose a contraceptive method before discharge. Providers expressed concern for the volume of induced abortions and maternal deaths within the hospital, which many felt could be averted by improving postpartum family planning. However, there was no postpartum contraceptive counseling or method provision in the present setting, and no providers had experience in initiating methods immediately postpartum.

Conclusion: Efforts to integrate family planning into postpartum care services could help to reduce the unmet need for family planning, and help patients and providers reach their goals. (Lathrop et al., 2011, Abstract)


Objectives: To explore and describe postpartum experiences of first-time mothers in a Tanzanian, multiethnic, low-income suburb.

Methods: Individual qualitative interviews with 10 first-time mothers, 4-10 weeks postpartum in Ilala suburb, Dar es Salaam, Tanzania.

Results: The first-time mothers enjoyed motherhood and the respectful status it implied. To understand and handle the infant's needs and own bodily changes were important during postpartum. The tradition of abstaining from sex up to 4 years during breastfeeding was a concern as male's faithfulness was questioned and with HIV a threat to family health. Partner relationship changed towards shared parental and household work and the man's active participation was
appreciated. Support from family members and others in the neighbourhood were utilised as a resource by the mothers. In instances of uncertainties on how to handle things, their advice was typically followed. The new mothers generally had good experiences of health care during the childbearing period. However, they also experienced insufficiencies in knowledge transfer, disrespectful behaviour, and unofficial fees.

**Key conclusions and implication for practice:** The mothers' perspective of postpartum revealed that they actively searched for ways to attain infants' and own health needs, and family health in general. Prolonged sexual abstinence was considered a risk for the partner having other sexual partners and contracting HIV. The mothers relied heavily on the informal support network, which sometimes meant risking family health due to misinformation and harmful practices. Health care and informal support systems should complement each other to attain adequate support for the families postpartum. (Mbekenga et al., 2011, Abstract)


**OBJECTIVES:** To explore the preferences of women; once at the time of delivery and then three months later, in using contraceptive methods during postpartum period.

**METHODS:** A sample of 575 women who gave birth during July 2007 and February 2008 in Vali-Asre teaching hospital of Zanjan, were recruited and interviewed once after delivery and then three month later. The interview questions included demographic characteristic and questions assessing the tendency of mothers to use the contraceptives they preferred at time of delivery and three months later.

**RESULTS:** According to 537 (93.4%) of interviewed mothers, they intended using at least one contraceptive after getting discharged from the hospital. This figure dropped to 438 (76.1%) three months after delivery. Women who expressed the desire to use minipill after delivery were 169 (29.3%). However this value rose to 187 (32.2%) three months later. The difference was not statistically significant. There was significant relationship between type of contraceptives used and
women's age, number of children, place of residence and level of education three months following delivery.

**CONCLUSION**: Results suggest that health care must focus extensively on giving necessary information and consultation to pregnant women also their partners to help to improve selection of most favourite and safe method of contraception. (Rahmanpour et al., 2010 Abstract).


Although obstetrician-gynecologists recognize the importance of managing fertility for the reproductive health of individuals, many are not aware of the vital effect they can have on some of the world's most pressing issues. Unintended pregnancy is a key contributor to the rapid population growth that in turn impairs social welfare, hinders economic progress, and exacerbates environmental degradation. An estimated 215 million women in developing countries wish to limit their fertility but do not have access to effective contraception. In the United States, half of all pregnancies are unplanned. Voluntary prevention of unplanned pregnancies is a cost-effective, humane way to limit population growth, slow environmental degradation, and yield other health and welfare benefits. Family planning should be a top priority for our specialty. (Speidel & Grossman, 2011, Abstract)

**Yee L ; Simon M.** (2011)*Urban minority women's perceptions of and preferences for postpartum contraceptive counseling*. J Midwifery Womens Health. 56(1):54-60 (ISSN: 1542-2011)

**INTRODUCTION**: Focused antenatal contraceptive counseling about postpartum contraception may reduce the risk of contraceptive nonuse and misuse, although the optimal timing, content, and communication style of such counseling remain controversial. This study used an in-depth, qualitative approach in a population of young, postpartum, urban, minority group women in order to examine women's perspectives toward the optimal provision of comprehensive contraceptive counseling.
METHODS: Brief surveys and semi-structured interviews were conducted with 30 consenting postpartum women. In-person, one-on-one interviews were then reviewed for themes, by using an iterative process. Qualitative analysis techniques identifying emergent themes were applied to interview data.

RESULTS: In this cohort of African American (63%) and Hispanic (37%) women (median age 26 y), 73% had unplanned pregnancies. Women preferred frequent, short sessions of provider-initiated comprehensive contraceptive counseling throughout the antepartum period with reinforcement of decisions during the postpartum period. Participants valued patient-centered counseling that was inclusive of all appropriate methods and personalized to individual needs.

DISCUSSION: We recommend that frequent, provider-initiated, multiple-modality discussions of appropriate postpartum contraceptive options should take place throughout pregnancy in an open, individualized manner. Further work should address the long-term effects of improved patient-centered antenatal contraceptive counseling on rates of unintended pregnancy. (Yee & Simon 2011, Abstract)

Zahumensky Jozef; Sykorova Jana; Sottner Oldrich; Zmrhalova Barbora; Vojtech Jiri; Menzlova Erika; Vasicka Ian; Dvorska Monika; Maxova Katerina; Vlacil Jaromir; Hrubantova Helena; Halaska Michael. (2010) Postpartum examination, breastfeeding, and contraception in the postpartum period in the Czech Republic. Central European Journal of Medicine, 6(1), 76-82.

In the majority of recent textbooks of obstetrics, a routine follow-up examination at the end of the postpartum period is recommended. To date, no studies have been done in the Czech Republic addressing use of contraception and follow-up care in the postpartum period. Questionnaires were sent to 672 participants who gave birth in the year 2008, inquiring about follow-up examinations in the postpartum period and use of contraception. In total, 458 (68.2%) questionnaires were returned. 430 women (93.9%) underwent routine examinations at 6 weeks into the postpartum period. At the time of examination, 36 women were asked about their particular health problems (8.4%).

In 130 instances, the question most often addressed by the outpatient gynecologist concerned use of contraception (30.2%). However, only 34 physicians expressed concern about changes in sexual life
or other sexually related problems. 426 women (93.0%) were sexually active and 310 women (72.8%) did not use any contraception with the exception of breastfeeding. The current practice of outpatient gynecological visits at 6 weeks postpartum and advice on contraception both seem inadequate. (Zahumensky et al., 2010, Abstract)
2. COMMUNITY AND FACILITY


Objectives: Several new methods are available, but we know little about successful integration of contraceptive technologies into services. We investigated provider factors associated with the initiation of new hormonal methods among women at high risk of unintended pregnancy.

Methods: This cohort study enrolled 1387 women aged 15-24 starting hormonal contraception (vaginal ring, transdermal patch, oral contraceptive, or injectable) at four family planning clinics in low-income communities. We measured provider factors associated with method choice, using multinomial logistic regression.

Results: Ring and patch initiators were more likely than women starting oral contraceptives to report that they chose their method due to provider counseling (p<0.001). Contraceptive knowledge in general was low, but initiation of a new method, the ring, was associated with higher knowledge about all methods after seeing the provider (p<0.001). Method initiated varied with provider site (p<0.001). These associations remained significant, controlling for demographics and factors describing the provider-patient relationship, including trust in provider and continuity of care.

Conclusion: Women's reports of provider counseling and of their own contraceptive knowledge after the visit was significantly associated with hormonal method initiated. Practice implications: More extensive counseling and patient education should be expected for successful integration of new hormonal methods into clinical practice. (Harper C.C et al., 2010, Abstract.)


OBJECTIVE: Low frequency of effective contraceptive use remains a challenging problem. This article examines the frequency of effective postpartum contraception and the methods used before
discharge in public hospitals in Guatemala. It also discusses the need to implement best practices in providing family-planning and contraceptive services.

METHODS: In March 2006, a surveillance system was implemented to collect data on the initiation of effective contraceptive methods. Postpartum women were monitored in 34 public hospitals. Univariate and bivariate analyses were performed, and a chi-square test for linear trends was used to compare female surgical sterilization rates after vaginal delivery and cesarean section.

RESULTS: Between 1 March 2006 and 31 December 2008, of the 218,656 women who had a postpartum event, 31% received an effective contraceptive method before hospital discharge. The frequency of initiation of effective postpartum methods varied across hospitals. Hospital results were consistent with national data on women of reproductive age. Among women who underwent surgical sterilization, differences between those who had delivered vaginally and those who had a cesarean section were statistically significant.

CONCLUSIONS: The overall frequency of initiation of effective postpartum contraceptive use is low in public hospitals in Guatemala. It is higher, however, in hospitals at lower health care levels with strong community ties. Routine data collection revealed specific areas for improvement, particularly the need to enhance health providers' knowledge of medical eligibility criteria for effective contraceptive use postpartum. The priority is to promote the provision of high-quality family-planning and contraceptive services in Guatemala's public health system. (Kestler E. Et al., Abstract, 2011.)


Background: To reduce a large unmet need for family planning in many developing countries, governments are increasingly looking to community health workers (CHWs) as an effective service delivery option for health care and as a feasible option to increase access to family planning services. This article synthesizes evidence on the feasibility, safety and effectiveness of community-based delivery of the injectable contraceptive depot- medroxypregesterone acetate (DMPA).
**Study Design:** Manual and electronic search and systematic review of published and unpublished documents on delivery of contraceptive injectables by CHWs.

**Results:** Of 600 identified documents, 19 had adequate information on injectables, almost exclusively intramuscular DMPA, provided by CHWs. The data showed that appropriately trained CHW demonstrate competency in screening clients, providing DMPA injections safely and counseling on side effects, although counseling appears equally suboptimal in both clinic and community settings. Clients and CHWs report high rates of satisfaction with community-based provision of DMPA. Provision of DMPA in community-based programs using CHWs expanded access to underserved clients and led to increased uptake of family planning services.

**Conclusions:** We conclude that DMPA can be provided safely by appropriately trained and supervised CHWs. The benefits of community-based provision of DMPA by CHWs outweigh any potential risks, and past experiences support increasing investments in and expansion of these programs. (Malarcher et al., 2011, Abstract)
3. BREASTFEEDING FOR CONTRACEPTION & LACTATION AMENORRHEA METHOD


Objective: The aim of this study was to determine the effects of breastfeeding education/support offered at home on day 3 postpartum on breastfeeding duration and knowledge.

Methods: The study included a total of 60 women who gave birth at Zbeyde Hanim Maternity Hospital located in Aydin, Turkey. In addition to a standard breastfeeding education in the first few hours after delivery, which was provided to all women in this "baby-friendly initiative" (BFI) hospital, the mothers in the intervention group received breastfeeding education at home on day 3 postpartum from supporters.

Results: Both groups were comparable in terms of maternal and neonatal characteristics. The breastfeeding education/support offered during a home visit on day 3 postpartum was associated with a significant increase in the percentage of exclusively breastfed infants both at 2 weeks and 6 weeks, and at 6 months, and was also associated with a significant increase in exclusive breastfeeding and in total breastfeeding duration. In addition, increased breastfeeding knowledge scores were observed in the intervention group at 2 weeks and at 6 weeks after delivery, when compared with the respective scores in the control group.

Conclusion: Breastfeeding education offered at home on day 3 postpartum was effective in increasing the breastfeeding duration and breastfeeding knowledge. (Aksu,H. et al., 2011, Abstract)

Objective: To investigate mother's perception and practices about breastfeeding and their socio-demographic correlate in infants equal to or less than 6 months.

Methods: A cross-sectional study was carried out on 200 mother-infant pairs who visited the health care centers, Bilal Colony (semi-urban) and the Aga Khan University (urban), for their well-baby follow-ups and vaccination using convenient sampling. Frequencies and percentages were computed and Chi-square was used to find associations between socio-demographics of mothers and their perception and practices about breastfeeding.

Results: Exclusive breastfeeding was reported by about 54% of the mothers. Thirty-five percent of the mothers gave prelacteal feed, 14% discarded colostrum and 43% woke up their infant to feed if time had exceeded 2 hours. Majority of the females were aware of the advantages (92%) and the disadvantages (85%) of breastfeeding. However, the awareness of positive feedback relationship of milk production and sucking was lacking and breast feeding was considered to cause weakness in mothers.

Conclusion: Despite the efforts of health policy makers, the results show a situation that is not improving. Women were aware of the advantages and disadvantages of breast and bottle feeding but a disparity was observed between their perception and practices. (Ali, S et al., 2011, Abstract)

Gurtcheff SE; Turok DK; Stoddard G; Murphy PA; Gibson M; Jones KP(2011).
Lactogenesis after early postpartum use of the contraceptive implant: a randomized controlled trial. Obstet Gynecol, 117(5), 1114-21. (ISSN: 1873-233X)

OBJECTIVE: To evaluate lactogenesis after early postpartum insertion of the etonogestrel contraceptive implant.

METHODS: Healthy peripartum women with healthy, term newborns who desired the etonogestrel implant for contraception were randomly assigned to early (1-3 days) or standard (4-8 weeks) postpartum insertion. The primary outcomes, time to lactogenesis stage II and lactation failure, were documented by a validated measure. The noninferiority margin for the mean difference in time to lactogenesis stage II was defined as 8 additional hours. Secondary data (device continuation and contraceptive use, breast milk analysis, supplementation rates, side effects, and bleeding patterns) were collected at periodic intervals for 6 months.
RESULTS: Sixty-nine women were enrolled. Thirty-five were randomly assigned to early insertion and 34 to standard insertion. There were no statistically significant differences between the groups in age, race, parity, mode of delivery, use of anesthesia, or prior breastfeeding experience. Early insertion was demonstrated to be noninferior to standard insertion in time to lactogenesis stage II (early: [mean±standard deviation] 64.3±19.6 hours; standard: 65.2±18.5 hours, mean difference, -1.4 hours, 95% confidence interval [CI] -10.6 to 7.7 hours). Early insertion was also demonstrated to be noninferior to standard insertion in incidence of lactation failure (1/34 [3%] in the early insertion group, 0/35 [0%] in the standard insertion group [risk difference, 0.03, 95% CI -0.02 to 0.08]). Use of formula supplementation was not significantly different between the groups. Milk composition at 6 weeks was not significantly different between the groups.

CONCLUSION: Breastfeeding outcomes were similar in women who underwent early compared with standard postpartum insertion of the etonogestrel implant. (Gurtcheff . et al., 2011, Abstract).

Kunwar S ; Faridi MM ; Singh S ; Zahra F ; Alizaidi Z(2010).Pattern and determinants of breast feeding and contraceptive practices among mothers within six months postpartum. Bioscience Trends, 4(4):186-9 (ISSN: 1881-7823)

OBJECTIVE: The present study aims to determine the patterns of breast feeding, return of menstruation, and contraceptive practices in the first six months postpartum in women visiting the outpatient department at a teaching hospital in Lucknow, Northern India.

STUDY DESIGN: Mothers of infants between six to eight months of age visiting the outpatient department of Era's Lucknow Medical College were interviewed regarding breast feeding practices, return of menstruation, sexual activity, and contraceptive practices within the first six months postpartum using a structured questionnaire.

RESULTS: Of all women interviewed only 75.8% practiced exclusive breast feeding with the mean duration of exclusive breast feeding (EBF) being 3.5 months with only 41% practicing EBF for six months, 28% were sexually active within six weeks postpartum, 64.5% women had a return of menstruation within six months. Contraception was practiced by only 54.4% women with a barrier method such as a condom, being the most common. Better education was the only factor significantly affecting EBF (p < 0.004) and use of contraception (p < 0.027). There were a total of 10 pregnancies within six months postpartum.
CONCLUSION: Optimal breast feeding practices are poor in this part of the country and lactational amenorrhoea cannot be effectively and reliably used as a method of contraception. Therefore, optimal breast feeding practices, timely introduction of contraception and institutional delivery need to be encouraged. (Kunwar S. et al., 2010, Abstract)


OBJECTIVE: To determine the breast-feeding practices and duration of lactational amenorrhoea among women within the first year of delivery in a Nigerian population. Method: Cross-sectional study carried out between January 2005 and April 2006, among mothers within one year of delivery, who were attending the Infant Welfare Clinic at Wesley Guild Hospital, Ilesa, Nigeria. Using a semi-structured questionnaire, mothers were interviewed to obtain information regarding their socio-demographic characteristics, parity, breast-feeding habits, use of contraception and onset of menstruation after delivery. Information obtained was analysed using the Statistical Package for Social Sciences (SPSS) software version 11.

RESULTS: All 268 (100%) mothers interviewed breast-fed their babies, 261 (97.4%) of which for at least 6 months. Most (71.6%) suckled exclusively for 6 months and more; only 10 (3.7%) never carried out exclusive breast-feeding. Age, parity and educational level did not affect the duration of exclusive breast-feeding. Lactational amenorrhoea lasted 3 months or more in 229 (85.5%) of the mothers. Of the 174 who exclusively breast-fed for 6 months, 109 (62.6%) remained amenorrhoeic during that time and, hence, met the criteria for use of LAM contraception.

CONCLUSION: Exclusive breast-feeding among nursing mothers is highly prevalent among Yoruba mothers of South-west Nigeria. Since lactational amenorrhoea lasts 6 months in about two-thirds of the women nursing for that period of time, there is a great potential for the application of LAM for contraception. (Kuti O., 2007, Abstract)

Moura ER ; de Freitas GL ; Pinheiro AK ; Machado MM ; da Silva RM ; de Oliveira Lopes MV(2011) Lactational amenorrhea: nurses experience and the promotion of this alternative
method of contraception. Revista da Escola de Enfermagem USP.45(1):40-6 (ISSN: 0080-6234)

This is a cross-sectional, field study that used a quantitative approach with the objectives to identify nurses' personal experiences with breastfeeding and with the Lactational Amenorrhea Method (LAM); learn the reasons for not adhering to breastfeeding or adhering to mixed feeding; establish the relationship between nurses' personal experience with the LAM and their giving orientations about this contraceptive method to users of the Primary Health Care Center. Participants were 137 nurses with the Family Health Strategy in Fortaleza, Ceará, Brazil, and data collection was performed through interviews. Most participants were female; i.e., 121 participants (88.3%). The age range was 26 to 59 years, with an average of 38.3 years. Sixty-six participants (94.2%) had a previous experience with breastfeeding, 61 (92.4%) of which adhered to Exclusive Breastfeeding (EB), 5 (7.6%) to Mixed Feeding (MF); and 4 (5.8%) did not breastfeed. The time of EB ranged from one to six months, with an average 4.31 months. Twelve nurses (19.6%) followed the LAM. The study showed that the nurses' personal experience with the LAM did not affect the promotion of this method to the clientele that they assist. (Moura ER. Et al., 2011, Abstract)

Contraception 77(5), 350-354

BACKGROUND: Breastfeeding does not reliably protect against pregnancy except during the first 6 months postpartum and only then if accompanied by amenorrhea. Reluctance to use other methods of contraception during lactation may result in unplanned pregnancy. The aims of this study were to describe, among women in rural Egypt attending for antenatal care the prevalence of pregnancy during breastfeeding, contraceptive practice and unintended pregnancy. Finally, the study assessed women's impressions of the effect of conception during breastfeeding on breast milk and on the health of the breastfed infant.

STUDY DESIGN: A descriptive study using an interviewer-administered structured questionnaire for 2617 parous women attending a hospital in Egypt for antenatal care.

RESULTS: More than 95% of women breastfed the child before their current pregnancy; 25.3% conceived while breastfeeding. Conception occurred during the first 6 months postpartum in 4.4%,
before resumption of menstruation in 15.1% and while exclusively or almost exclusively breastfeeding in 28.1%. Only 10 pregnancies (1.5%) occurred when all the prerequisites of the lactational amenorrhea method of contraception (LAM) were present. Twenty-nine percent of pregnancies conceived during breastfeeding were unintended, 10% of women had considered terminating their pregnancy while 4.4% of them reported trying to do so.

CONCLUSIONS: Pregnancy during breastfeeding is common in Egypt and is often unintended. There is great potential for using LAM, but it must be properly taught, and women should be encouraged to start using effective contraception as soon as any of the prerequisites of LAM expire.  
(Shaaban O.M, & Glasier A.F., 2008, Abstract)


Although the lactational amenorrhea method (LAM) is commonly used for contraception, it frequently fails and pregnancy ensues. This descriptive study was conducted to determine the status of the use of breastfeeding as a method of family planning and the influential factors that may have contributed to the success or failure of LAM. The research sample was comprised of 188 women with 6-month-old infants in eastern Turkey. A semistructured interview form was used for data collection in face-to-face meetings with the women during visits in their homes. In this study, 34% of the women used LAM to prevent pregnancy after childbirth. However, it was observed that only 17.2% of women using LAM fulfilled the LAM criteria with success, and 82.8% did not fulfill one or more of the LAM criteria. The pregnancy rate of women using this method was 32.8%. Two of the three basic criteria necessary for LAM to be effective were not met by the women: having menses (43.8%) and starting supplemental feeding (70.3%). Prenatal and postnatal counseling services need to be integrated and include information and education about the criteria that are necessary for LAM to be used effectively. These services should be given to women who choose to use LAM for contraception. (Türk R., et. al, 2010, Abstract)

Culture is shared by individuals of community and has been learned in process of social interaction. Individuals' behaviour is affected by community's cultural values. On the other hand, religion could affect the cultural values, too, especially for the community under control of traditions. In line with this, effect of religion can be seen in all area of community. Islamic religion is internalized by majority of the population of Turkey. Belief in association with Islamic religion can affect culture and life style. This manner has influence especially on Muslim women. To understand Quran and Sunna and to live convenient to them is a most determinant factor of Islamic culture. Quran especially promote woman for breast-feeding. For example: in Ramadan month, fasting is an obligatory cult and eating and drinking is forbidden for Muslims in daytime. However, the Prophet Muhammad stated that breastfeeding women may not fast. But the women have to fulfil the religion task, which is obligatory for all Muslim, after lactation period. On the other hand, the breastfeeding or pregnant women who have deep religious belief mostly don't take into consideration this detail and can continue to fast in Ramadan month. This manner can affect negatively both mother's and child's health. 97.8% of infant has been breastfed in postpartum period in Turkey. Women's breastfeeding behaviour is promoted by both community and family. Breastfeeding is seen as a task of women in Islamic culture and this also supports the incentive behaviour. For developing and developed countries, World Health Organization regards breastfeeding as a potential family planning method for mother and child health programs. This method can protect mother from pregnancy in postpartum period at 98% ratio if some criteria are obeyed. In Islamic religion, there are different comments on family planning method usage. However, in general, family planning method usage is not assented. In addition, it is emphasized that contraception methods are contrary to Islamic religion's essential principle and essence. Because of that, in Turkey, 16% of the women use Lactational Amenorrhea Method (LAM) as a natural protective method against pregnancy. Consequently, under impact of religious beliefs, if women or partner prefer LAM as contraception, the responsibilities of health worker, national and international institution are to support to arrange education and counselling program on this subject and to give consultation and educational services which are related to how to use this method most effectively in both prenatal and postpartum period. Thus, we think that unwanted pregnancies and health problems concerning this could be prevented. (Türk R. & Terzioglu F, 2010, Abstract)
4. HIV AND FAMILY PLANNING, AND PMTCT

Achana FS; Debpuur C; Akweongo P; Cleland J (2010). Postpartum abstinence and risk of HIV among young mothers in the Kassena-Nankana District of Northern Ghana. Cult Health Sex, 12(5):569-81 (ISSN: 1464-5351)

This study explored the role and shaping of postpartum abstinence on young mothers' sexual conduct and vulnerability to HIV infection in a rural setting of Northern Ghana. Young mothers in their mid-twenties to early-thirties and men married to young mothers were purposively selected for repeated semi-structured interviews. The interviews were tape-recorded, transcribed and Nvivo software was used to organize and manage the data for analysis. In this setting, postpartum abstinence was perceived as a risk period for STIs due to increased male infidelity during this period. Yet, women's urge to take action to mitigate the risk of STIs is compromised by childbearing obligations. More assertive women, however, employ crafty and nifty protective strategies including the masturbation of their male partner when they perceive themselves at risk. We conclude that the advent of HIV and AIDS, coupled with improved access to sexual and reproductive health information and modern contraception, has eroded the logic of observance of postpartum abstinence in the Kassena-Nankana District of Northern Ghana. Efforts should be made to facilitate easy access to modern contraceptives and HIV protection by rural women. (Achana F.S. et al., 2010, Abstract)


This study explores challenges and obstacles in providing effective family planning services to HIV-positive women as described by staff of maternal and child health (MCH) clinics. It draws upon data from a survey of service providers carried out from late 2008 to early 2009 in 52 MCH clinics in southern Mozambique, some with and some without HIV services. In all clinics, surveyed providers reported that practical, financial, and social barriers made it difficult for HIV-positive clients to follow protocols to prevent mother-to-child transmission of the virus. Likewise, staff were skeptical
of their seropositive clients' ability to adhere to recommendations to cease childbearing and to use condoms consistently. Providers' recommendations to HIV-positive clients and their assessment of barriers to adherence did not depend on availability of HIV services. Although integration of HIV and reproductive health services is advancing in Mozambique, service providers do not feel that they can influence the behaviors of HIV-positive women effectively. (Hayford et al., 2010, Abstract)


OBJECTIVES: To estimate the rates and timing of mother to infant transmission of HIV associated with breast feeding in mothers who seroconvert postnatally, and their breast milk and plasma HIV loads during and following seroconversion, compared with women who tested HIV positive at delivery.


RESULTS: Among mothers who tested HIV positive at baseline and whose infant tested HIV negative with polymerase chain reaction (PCR) at six weeks (n=2870), breastfeeding associated transmission was responsible for an average of 8.96 infant infections per 100 child years of breast feeding (95% CI 7.92 to 10.14) and varied little over the breastfeeding period. Breastfeeding associated transmission for mothers who seroconverted postnatally (n=334) averaged 34.56 infant infections per 100 child years (95% CI 26.60 to 44.91) during the first nine months after maternal infection, declined to 9.50 (95% CI 3.07 to 29.47) during the next three months, and was zero thereafter. Among women who seroconverted postnatally and in whom the precise timing of infection was known ((less-than or equal to) 90 days between last negative and first positive test; n=51), 62% (8/13) of transmissions occurred in the first three months after maternal infection and breastfeeding associated transmission was 4.6 times higher than in mothers who tested HIV positive.
at baseline and whose infant tested HIV negative with PCR at six weeks. Median plasma HIV concentration in all mothers who seroconverted postnatally declined from 5.0 log10 copies/mL at the last negative enzyme linked immunosorbent assay (ELISA) to 4.1 log10 copies/mL at 9-12 months after infection. Breast milk HIV load in this group was 4.3 log 10 copies/mL 0-30 days after infection, but rapidly declined to 2.0 log10 copies/mL and <1.5 log10 copies/mL by 31-90 days and more than 90 days, respectively. Among women whose plasma sample collected soon after delivery tested negative for HIV with ELISA but positive with PCR (n=17), 75% of their infants were infected or had died by 12 months. An estimated 18.6% to 20.4% of all breastfeeding associated transmission observed in the ZVITAMBO trial occurred among mothers who seroconverted postnatally.

CONCLUSIONS: Breastfeeding associated transmission is high during primary maternal HIV infection and is mirrored by a high but transient peak in breast milk HIV load. Around two thirds of breastfeeding associated transmission by women who seroconvert postnatally may occur while the mother is still in the "window period" of an antibody based test, when she would test HIV negative using one of these tests. (Humphrey et al., 2011, Abstract)


BACKGROUND:Women living with HIV in sub-Saharan Africa face significant challenges in accessing HIV care and adhering to antiretroviral therapy. Most reports have focused on issues relating to long-term adherence such as those surrounding stigma and disclosure, hunger, cultural factors, lack of accurate health information, lack of social support, medication side effects and overcrowded health systems. Information related to the challenges facing pregnant women when taking antiretrovirals for prophylactic purposes is limited. The "Kesho Bora Study" is a multicentre prevention of mother-to-child transmission (PMTCT) trial in sub-Saharan Africa evaluating the PMTCT efficacy of triple therapy until cessation of breast feeding compared to short course zidovudine monotherapy in a predominantly breast feeding population. Following unexplained discrepancies during objective adherence assessments, a sub-study was conducted at one site to examine the underlying adherence issues.
**Methods:** The counselling and clinical notes of all 100 enrolled Zulu women were examined. Extracted information was supplemented by unstructured, free-ranging interviews conducted by trained adherence counsellors on 43 consecutive women attending the trial clinic over a two-week period. Adherence was defined as good (>95% adherence), or poor (<95% adherence).

**Results:** Reasons provided for sub-optimal adherence included therapy misconceptions/misunderstandings, antiretroviral use by relatives, domestic violence, poverty and issues relating to disclosure and stigma. About 61% (57/94) of antenatal women had good adherence with their PMTCT prophylaxis, with no significant difference shown between those taking the long and short course.

**Conclusion:** Antenatal women in northern rural KwaZulu-Natal face significant challenges in taking antiretroviral PMTCT prophylaxis. (Mepham et al., 2011, Abstract)


**Background:** Little is known about what factors correlate with hormonal contraceptive (HC) use in HIV-infected women in sub-Saharan Africa.

**Methods:** We assessed the trends in HC use among HIV-infected women in Rakai, Uganda; determined factors associated with HC use and considered whether those factors changed over time.

**Results:** HC use among HIV-infected women in Rakai increased from 5.7% in 1994 to 19.2% in 2006, but nearly half of all pregnancies in this population were unintended. Variables associated with increased HC use included higher education, socioeconomic status, parity, sexual frequency, being currently married or in a relationship, discussion of family planning with a partner and receipt of HIV results. Variables negatively associated with HC use included symptoms suggestive of opportunistic infections, having no sex partner in the past year, condom use, breastfeeding and older age. Most associations remained stable over time.
Conclusion: Although contraceptive use by HIV-infected women has increased three-fold in this rural population, unintended pregnancies persist, placing women and their children at risk of adverse consequences. (Polis et al., 2011, Abstract)


BACKGROUND: The IDI is an HIV treatment and research centre in Kampala, Uganda with over 24000 patients of whom 9000 are on antiretroviral therapy.

PURPOSE: of the study We conducted a study in March 2007 to determine the accessibility and utilization of Sexual Reproductive Health (SRH) services among female clients.

METHODS: Using a structured questionnaire, a cross-sectional survey of female clients aged 18-49 years attending the IDI clinic was conducted. SPSS version 12.0 was used to fit a logistic regression model to determine the following outcomes; pregnancy decisions, desire for children and pregnancy risk behaviour among sexually active female clients.

RESULTS: Of 493 respondents, 322 (65%) were sexually active at the time of the survey. Over 30% of the respondents had become pregnant after knowing their sero-status, 66% of the pregnancies were unintended of which 39% ended in abortions. Over 52% of the pregnancies were due to the influence of the husband, 33% was a result of mutual agreement between the clients and their partners while 15% of them were because of the client's decision. Of the women who made their own decision about pregnancy, 57% had a secondary level of education. Among married 40% of the pregnancies were a result of mutual agreement while relatives influenced 45% of the pregnancies among the singles. Of the participants 96% reported awareness of family planning methods; however, the level of utilization was at 40%. Overall 31% of the women stated a desire for children. 41% engaged in pregnancy risk behaviour and of these 63% did not desire children. Women aged 24-34 years had the highest desire to have children. The husbands made pregnancy decisions for 62% of the women who did not want more children.

CONCLUSIONS: Family planning utilization is low even among those females who have no desire for more children resulting in unwanted pregnancies. Despite their HIV status women remain sexually active and have a desire for more children. A level of education had no bearing on
contraceptive use but was important for decision making about pregnancy. (Walusimbi et al., 2010, Abstract).
5. BIRTH SPACING


In this paper we have attempted to demonstrate the relationship between birth spacing and child survival in Bangladesh using data from the 2004 Bangladesh Demographic Health Survey (BDHS). We used standard life table techniques to estimate the probability of child survival and appropriate spacing of births. Logistic regression models were used to investigate the covariates, along with the birth interval that has significant influence on child survival. Study results showed that the probability of child survival was much lower when the preceding birth interval was less than 12 months, and it may be also impeded by a higher birth interval. Child survival probability was highest for a preceding birth interval of 5 years; thereafter, the probability declined. Results of the logistic regression model clearly showed that preceding birth interval was an important and strongly significant factor in explaining infant and child mortality. While education, current age, breastfeeding status and birth order were substantial and highly significant factors both in infant and child mortality, socio-economic factors such as occupation and socio-economic status showed a significant effect only on child mortality. Postponing another child (for a birth interval of 5 years and above) and proper spacing of births would have a noticeable effect in reducing the level of mortality. (Akter et al., 2010, Abstract)


OBJECTIVE: The purpose of this study was to evaluate whether the association between short interpregnancy intervals and perinatal outcome varies with maternal age.

STUDY DESIGN: We performed a retrospective cohort study among 263,142 Dutch women with second deliveries that occurred between 2000 and 2007. Outcome variables were preterm delivery
(<37 weeks of gestation), low birthweight in term deliveries (<2500 g) and small-for-gestational age (<10th percentile for gestational age on the basis of sex- and parity-specific Dutch standards).

**RESULTS:** Short interpregnancy intervals (<6 months) was associated positively with preterm delivery and low birth weight, but not with being small for gestational age. The association of short interpregnancy interval with the risk of preterm delivery was weaker among older than younger women. There was no clear interaction between short interpregnancy interval and maternal age in relation to low birth weight or small for gestational age.

**CONCLUSION:** The results of this study indicate that the association of short interpregnancy interval with preterm delivery attenuates with increasing maternal age. (de Weger et. al 2011, Abstract)


**OBJECTIVE:** Birth spacing intervals are relatively short in India. Healthy spacing of 3-5 years between births is an effective way to prevent maternal and child mortality and morbidities. Socio-cultural and structural barriers, including limited awareness, socio-cultural norms, and misconceptions need to be addressed for behavior change. Hence the objective was to understand these barriers and accordingly develop separate messages for young women, her husband and her mother-in-law.

**METHODS:** Data were collected from young women, husbands and mothers-in-law using qualitative methods. Altogether 16 Focus Group Discussions and 30 in-depth interviews were conducted. Beliefs related to need of spacing, disadvantages of closely spaced pregnancies and messages considered suitable for different stakeholders were investigated. Messages were identified for women, husband and mother-in-law; communication aids prepared and community workers trained to appropriately communicate the messages to stakeholders. Quantitative data were collected to measure the effect of the intervention.

**RESULTS:** Educational campaign resulted in higher use of contraceptives for
spacing among registered pregnant women from experimental area compared to control area.

**CONCLUSION:** Differential audience specific educational campaign is feasible and effective.

**PRACTICE IMPLICATIONS:** For an effective communication in the community, workers should know how exactly to convey the different health messages to different target population. (Sebastian et al., 2010, Abstract)


**BACKGROUND:** Longer intervals between consecutive births decrease the number of children a woman can have. This results in beneficial effects on population size and on the health status of mothers and children. Therefore, understanding the practice of birth interval and its determinants is helpful to design evidence based strategies for interventions.

**OBJECTIVE:** The objective of this study was to determine duration and determinants of birth interval among women of child bearing age in Lemo district, southern Ethiopia in March 2010.

**METHODS:** A community based cross sectional study design with stratified multistage sampling technique was employed. A sample of 844 women of child bearing age were selected by using simple random sampling technique after complete census was conducted in selected kebeles prior to data collection. Structured interviewer administered questionnaire was used for data collection. Actual birth interval was measured with the respondents' memory since majority of the women or their children in the area had no birth certificate. **RESULTS:** Majority (57%) of women were practicing short birth interval length with the median birth interval length of 33 months. Actual birth interval length is significantly shorter than preferred birth interval length. Birth interval showed significant variation by contraceptive use, residence, wealth index, breast feeding and occupation of husbands. **CONCLUSION:** low proportion of optimal birth spacing practices with short actual birth interval length and longer preferred birth interval lengths were evident among the study subjects. Hence interventions to enhance contraceptive utilization behaviors among women in Lemo district would be helpful to narrow the gap between optimal and actual birth spacing. (Yohannes et al., 2011, Abstract)
6. LONG-ACTING AND PERMANENT CONTRACEPTION: PPIUDs, implants, and permanent methods

Akkuzu et al Reasons for continuation and discontinuation of IUD in postpalcental/early postpoartum periods and postpue[era]/ interval periods: one year follow-up


**Background:** An intrauterine device (IUD) is an effective reversible form of contraception. We determined the efficacy and safety of immediate post-placental IUD insertion during cesarean section.

**Study Design:** Two hundred forty-five women with term pregnancies delivering by cesarean section between September 2006 and December 2007 were included in the study. A copper IUD (TCu 380A) was inserted using a ring forceps within 10 min of removing the placenta. The participants were examined before hospital discharge and at 6 weeks, 6 months and 12 months postpartum.

**Results:** None of the patients were lost to follow-up. There was one case of an unplanned pregnancy (0.4%). There were no serious complications associated with immediate IUD insertion during cesarean section. The cumulative rates of expulsion, removal for bleeding/pain and other medical reasons were 17.6, 8.2 and 2.4 per 100 women per year, respectively. The continuation rates were 81.6% and 62% at 6 and 12 months, respectively.

**Conclusion:** Immediate post-placental IUD insertion during cesarean section provides adequate protection against pregnancy. However, greater than one fourth of the participants discontinued IUD use due to spontaneous expulsion or other medical reasons. (Celen et al., 2011, Abstract)


**BACKGROUND:** The objective of this study was to assess the effect of timing of postpartum levonorgestrel-releasing intrauterine device (IUD) insertion on breast-feeding continuation.
**Study Design:** Women interested in using a levonorgestrel IUD postpartum were randomized to immediate postplacental insertion (postplacental group) or insertion 6-8 weeks after vaginal delivery (delayed group). Duration and exclusivity of breastfeeding were assessed at 6-8 weeks, 3 months, and 6 months postpartum. Only women who received an IUD were included in this analysis.

**Results:** Breastfeeding was initiated by 32 (64%) of 50 of women receiving a postplacental IUD and 27 (58.7%) of 46 of women receiving a delayed IUD (p=.59). More women in the delayed group compared with the postplacental group continued to breastfeed at 6-8 weeks (16/46 vs. 15/50, p=.62), 3 months (13/46 vs. 7/50, p=.13), and 6 months postpartum (11/46 vs. 3/50, p=.02). The results did not differ when only women who initiated breastfeeding or only primiparous women with no prior breastfeeding experience were analyzed.

**Conclusions:** Immediate postplacental insertion of the levonorgestrel IUD is associated with shorter duration of breastfeeding and less exclusive breastfeeding. Further studies on the effects of early initiation of progestin-only methods on women's lactation experience are needed. (Chen et al., 2011, Abstract)

Chen B.A., Reeves M.F., Hohmann H.L., Creinin M.D. (2010) Comparing outcomes following immediate or delayed levonorgestrel-IUD insertion after dilation and curettage, dilation and evacuation and vaginal delivery. Contraception, 82 (2)192

**OBJECTIVES:** To compare outcomes in women undergoing immediate or delayed levonorgestrel-intrauterine device (IUD) insertion following first-trimester dilation and curettage (D and C), second-trimester dilation and evacuation (D and E) and vaginal delivery at term.

**METHOD:** We combined data from three studies that enrolled subjects concurrently at the University of Pittsburgh. In all three studies, women were randomized to immediate or delayed levonorgestrel-IUD insertion after D and C (n=243), D and E (n=88), and vaginal delivery (n=102). We compared immediate and delayed insertion, expulsion, and 6-month IUD usage between studies. Expelled IUDs were replaced if desired. Subjects lost to follow-up were excluded from analysis of 6-month IUD usage. Outcomes were analyzed using chi-square and Fisher's exact tests as appropriate.

**RESULTS:** Expulsion was more common with post-placental insertion (24%) compared to immediate insertion after D and C (3%) and D and E (7%), (p<.001), but did not differ in the
delayed arms (4%, 4% and 5%, respectively, p=1.0). More women returned for delayed insertion after vaginal delivery (90%) compared to D and C (70%) or D and E (46%), (p<.001). More women were lost to follow-up after D and E (39%) compared to D and C (20%) or vaginal delivery (12%), (p<.001). With a strategy of immediate insertion, 93% (152/163) of women were using IUDs at 6 months compared to 77% (135/175) of women who were provided delayed IUDs (p<.001).

**CONCLUSIONS:** Women undergoing immediate post-pregnancy IUD insertion are more likely to be using an IUD at 6 months. Return for delayed IUD insertion and expulsion are higher for postpartum women compared to women undergoing D and C or D and E. Loss to follow-up is high after D and E. (Chen et al., 2010, Abstract)


**BACKGROUND:** Long-acting reversible contraceptives (LARCs) and sterilization are the most cost-effective methods of contraception but are rarely used in sub-Saharan Africa partly due to limited access.

**STUDY DESIGN:** HIV-positive pregnant women attending two urban clinics in Rwanda were followed prospectively in a perinatal HIV transmission cohort study. Women attending one clinic were referred to public family planning (FP) services for all contraceptive methods (Site A) and women attending the other clinic (Site B) were offered implants and intrauterine devices (IUDs) on-site.

**RESULTS:** Fifty three percent of the pregnant women reported an intention to use a LARC or to be sterilized after delivery. The uptake of implants was significantly higher at Site B (38) than at Site A (6). The IUD uptake was extremely low at both sites (2). Twenty-eight of the 39 women at Site B who had intended to start using a LARC actually did so as compared to only one of 23 at Site A.

**CONCLUSION:** When access to LARC was provided, a substantial number of HIV-positive women started using hormonal implants, but not IUDs, in the postpartum period. HIV and FP services should consider improving access to implants to reduce the number of unintended pregnancies. (Dhont et al., 2009, Abstract)

Objectives: Comparison between Cupper T380 IUD (intrauterine device) and Multiload 375 IUD insertion in early postpartum period in regard to safety, efficacy, side effects, and complications.

Methods: A prospective randomized control trial enrolled 300 recently normally delivered females (within 48 h) in El-Shatby Maternity Hospital. The women were counseled for post partum use of an IUD as a pre-discharge family planning method. Participants were randomly assigned to Cupper T380 (Cu T380) or Multiload 375 IUD insertion. Kelly’s forceps was used for insertion of a Cu T380 IUD in 150 women and a Multiload 375 IUD in another 150 females. All women were administered a questionnaire, received a clinical examination, and underwent ultrasonographic scanning at 6 weeks and 6 months following IUD insertion.

Results: The expulsion rates were relatively high for both IUDs, amounting to 15% in Cu T380 compared to 14.9% in Multiload 375 insertions. There was a direct relation between the incidence of IUD expulsion in early postpartum insertion and the IUD-endometrial distance of the uterine fundus measured by ultrasound with 10 mm as a cutoff point. Early postpartum IUD insertion did not increase the discontinuation rate or the incidence of PID (upper genital tract infection). There was no significant difference between the IUDs regarding the safety, efficacy, side effects (such as expulsion and bleeding), and complications (such as perforation).

Conclusion: Both the Cu T380 IUD and Multiload 375 IUD are safe and effective as a pre-discharge family planning method when inserted during the early postpartum period. To decrease postpartum expulsion of IUDs, there is a need to use ultrasound scanning to measure the IUD endometrial distance in Egyptian contraceptive programs. (El Beltagy et al., 2010, Abstract)

Eroglu et al Comparison of efficacy and complications of IUD insertion in immediate postplacentally/early postpartum period with interval period: 1 year follow-up 2006 Contraception 74(5), 376-381

BACKGROUND: Insertion of an intrauterine device (IUD) immediately after delivery is appealing for several reasons. The woman is known not to be pregnant, her motivation for contraception may be high, and the setting may be convenient for both the woman and her provider. However, the risk of spontaneous expulsion may be unacceptably high.

OBJECTIVES: To assess the efficacy and feasibility of IUD insertion immediately after expulsion of the placenta. Our a priori hypothesis was that this practice is safe but associated with higher expulsion rates than interval IUD insertion.

SEARCH STRATEGY: We searched MEDLINE, CENTRAL, POPLINE, EMBASE, ClinicalTrials.gov, and ICTRP. We also contacted investigators to identify other trials. SELECTION CRITERIA: We sought all randomized controlled trials (RCTs) with at least one treatment arm that involved immediate post-partum (within 10 minutes of placental expulsion) insertion of an IUD. Comparisons could include different IUDs, different insertion techniques, immediate versus delayed post-partum insertion, or immediate versus interval insertion (unrelated to pregnancy). Studies could include either vaginal or cesarean deliveries.

DATA COLLECTION AND ANALYSIS: We evaluated the methodological quality of each report and sought to identify duplicate reporting of data from multicenter trials. Two authors abstracted the data. Principal outcome measures were pregnancy, expulsion, and continuation rates. Because the trials did not have uniform interventions, we were unable to aggregate them in a meta-analysis.

MAIN RESULTS: We found nine RCTs; one directly compared immediate post-partum insertion with delayed insertion. Expulsion by six months was more likely for the immediate group than the delayed insertion group (OR 6.77; 95% CI 1.43 to 32.14). In trials of immediate insertion alone, modifications of existing devices, such as adding absorbable sutures or additional appendages, did not appear beneficial. Most studies showed no important differences between insertions done by hand or by instruments. Lippes Loop and Progestasert devices did not perform as well as did copper devices.
AUTHORS' CONCLUSIONS: Immediate post-partum insertion of IUDs appeared safe and effective, though direct comparisons with other insertion times were limited. Expulsion rates appear to be higher than with interval insertion. Advantages of immediate post-partum insertion include high motivation, assurance that the woman is not pregnant, and convenience. The popularity of immediate post-partum IUD insertion in countries as diverse as China, Mexico, and Egypt support the feasibility of this approach. Early follow up may be important in identifying spontaneous IUD.

(Grimes et al., 2007, Abstract)

International Journal of Gynecology and Obstetrics, 107, 620

Objectives: To meet the unmet need with a safe, convenient and cost effective postpartum contraceptive method.

Materials and Methods: Postpartum Intrauterine Contraceptive Device (PPIUCD) is inserted within 10 minutes after Normal Vaginal Delivery (NVD) and during Caesarean Section (CS) just after removal of placenta, before closing of uterus and between 10 minutes and 48 hours after NVD by a Kelly Forceps. A client delivered in a hospital irrespective of her para with informed choice is eligible for a PPIUCD. Practical training is needed for doctors and nurses on PPIUCD along with infection prevention and counseling. Besides orientation on PPIUCD is needed for family planning workers and counselors. Cu-T 380A and Kelly Forceps are needed for PPIUCD along with other instruments and supplies.

Results: During March, 08-February, 2009, 24 clients received IUCD after NVD and 62 received during CS at AD-DIN Hospital, Dhaka. No major difficulties for insertion. Follow up: We followed up the clients during PNC visits by history taking, physical examination and ultrasonography. There was one case on the process of expulsion, one client complained of slight irregular bleeding and another one complained of abdominal pain. Number of clients needed removal was 3.

Conclusion: PPIUCD is a long term, reversible, not affecting breast feeding and suitable method for a woman delivered in a hospital. For its sustainability, counseling to women on PPIUCD during ANC and availability of round the clock trained personnel with required equipment are necessary.

( Khatun, 2009, Abstract)
Application of Mirenaan® during Caesarean Section (CS). European Journal of Contraception and Reproductive Health Care15 SUPPL. 1 (165-166)

Introduction: The levonorgestrel-releasing intrauterine system Mirenaan® is a long-acting, highly effective reversible method of contraception with the advantages of both hormonal and intrauterine contraception. The clinical advantages of Mirenaan® at time of caesarean section (CS) have been described including: improvement of uterine involution, decreasing lochia and dysfunctional bleeding; induction of persistence of amenorrhea or oligomenorrhea after cessation of breast-feeding during 5 years of use, providing long-term and reversible contraception with effectiveness similar to that of female Sterilization.

Objectives: With the aim to asses if Mirenaan® can be inserted during caesarean section (CS) to provide an immediate, reliable and safe contraception, a randomized, double blind study comparing Mirenaan® with our routinely practice of Cooper T Intrauterine Device (IUD) CS insertion was done.

Methods: After signed informed consent, a total of 396 women were randomly allocated to the application of Mirenaan® IUS (198) or Cooper T 380 IUD (198) after the extraction of placenta, applying it manually through hysterotomy up to the uterine fundus and orienting the IUS or IUD strings to the cervical os. Follow up visits at the end of puerperium and 6 and 12 months after insertion were performed assessing the permanence of IUS/IUD in situ, maternal and babies' health conditions, menstrual patterns (by reference period of 90 days), serum ferritin levels, adverse effects and pregnancies if any. Differences between groups were analyzed by student's t, Fisher and X2 tests as appropriate.

Results: Demographic and baseline characteristics were similar in both groups of treatment (mean age 24.9 + 5.1 y.o.). All patients breastfed their babies at least for 3 months. After one year of follow up, no pregnancies were reported. Expulsion rates were 4.5% in both groups. Menstrual patterns with Mirena® were significantly scant and lighter than with Cooper T 380 (p < 0.0001) with lower incidence of dysmenorrhea (3.1% vs. 24.9% p = 0.014). Proportion of patients with low ferritin serum levels (<12mg/L) at the end of study were significant lower in Mirena® users (OR 0.25 95% CI 0.14-0.44). No detrimental effects on breast-feeding were observed. Interestingly, babies' growth
in Mirena® group was higher (above percentile 50th) when comparing body weights at 6 and 12 months of follow-up (p < 0.0001). Continuation rates were 91.5 and 90% for Mirena® and Cooper T groups respectively at first year of follow-up. Main reasons for discontinuation were prolonged bleeding (35%) in Cooper T Group and amenorrhea (11.7%) or infrequent bleeding (11.7%) in Mirena® Group. No serious adverse effects were observed.

**Conclusions:** Mirena® can be inserted during CS providing high efficacy contraception without negative effects on breastfeeding. Further benefits, mainly reduced menstrual bleeding, had positive impact on Iron metabolism and consequently may hasten recovery after CS improving mothers and babies general health condition. (Lopez-Farfan, 2010, Abstract)


**Objectives:** To identify barriers to postpartum intrauterine contraception (IUC) placement and to explore patient preferences and satisfaction with contraceptive health services.

**Method:** Women delivering at a university hospital were recruited to participate in a survey addressing decision-making about post-partum contraception use. Additional information about health service utilization was gathered from a chart review. Women who reported an antenatal plan to use IUC post-partum were identified and followed to determine what proportion actually had IUC placed. Along with a chart review, a written survey is being administered at 6 months post-partum to identify reasons for not having it placed, patient contraception preferences and satisfaction with health services.

**Results:** Of the 185 women enrolled in the study, 28 reported that they planned to use IUC after delivery. There were no immediate post-placental placements. Missing the post partum appointment, insurance issues and changing to hormonal methods were the most common reasons identified in the medical record. Participant follow-up written questionnaires are being used to further characterize barriers to post-partum IUC placement, to assess satisfaction with current method and to determine if any features of current services are particularly unsatisfactory. Three of the 28 became pregnant within 12 months after their index delivery.
**Conclusions:** Most women reporting a plan to use IUC post-partum did not actually have a device placed by 3 months postpartum. Women who desire IUC in the post partum period might face multiple barriers to placement, many of which are modifiable. (McGuire et al., 2010, Abstract)


**Background:** Female sterilization is an important tool in reducing unplanned pregnancy and maternal mortality in our environment. The aim of this study was to determine the incidence, sociodemographic characteristics, technique, effectiveness and complications associated with female sterilization by bilateral tubal ligation at caesarean section.

**Method:** This was a retrospective analysis of the clinical records of 78 clients who had female sterilization out of 1,346 acceptors of contraceptive methods at the Federal Medical Centre, Makurdi, over a 5-year period between November 2002 and October 2007.

**Results:** Of the 1,346 acceptors of family planning methods, 78 clients had bilateral tubal ligation. The majority of the clients (37 [47.4%]) had sterilization at caesarean section, representing 2.7% of all acceptors of family planning methods. The mean age and parity of the clients were 34.3 years and 5.5, respectively. The majority of the clients (36 [97.3%]) had sterilization using the modified Pomeroy’s technique. Contraceptive effectiveness was 100%. No complication specific to tubal ligation was noticed.

**Conclusion:** Majority of female sterilization were performed at caesarean section. The procedure was found to be safe and effective. (Swende and Hwande, 2010, Abstract)


**OBJECTIVE:** To track outcomes of women in three cohorts-those who requested postpartum tubal ligation and received the procedure (postpartum tubal ligation [PPTL] YES), those who
requested postpartum tubal ligation but did not receive the procedure (PPTL NO), and a control group (those who did not request postpartum tubal ligation)-for 1 year postpartum.

**METHODS:** This was a record review evaluating women who delivered a liveborn singleton between December 2007 and May 2008 at the University of Texas San Antonio. Those in the case group were monitored until 1 year post-delivery. The primary outcome was pregnancy within 1 year of the index delivery among women in the control group compared with those in the PPTL NO group. Secondary outcomes included birth control requested at obstetric-admission discharge, attendance at a postpartum or other gynecology visit, contraceptive use between delivery and the postpartum visit, and request for contraception at the postpartum visit among the three cohorts.

**RESULTS:** During the observation period, 429 of 1,460 women requested postpartum tubal ligation; 296 (69%) received the procedure and 133 (31%) did not. Within 1 year of the index delivery, 46.7% of women in the PPTL NO group became pregnant compared with 22.3% of those in the control group (P<.001). Attendance at the postpartum visit was lowest for women in the PPTL YES group (12.8%; P=.004) compared with the similarly low attendance among those in the PPTL NO (18.8%) and control groups (20.3%; P=.73). Women in the PPTL NO group and those in the control group selected similar methods of postpartum contraception at hospital discharge.

**CONCLUSION:** Women who did not receive a requested postpartum tubal ligation were more likely to become pregnant within 1 year of delivery than were those in the control group (women not requesting permanent sterilization). (Thurman and Janecek, 2010, Abstract)
7. PROGRAM APPROACH (INCLUDING MALE INVOLVEMENT) AND OTHERS


OBJECTIVE: Family planning has several social and health benefits; it can reduce maternal mortality and the number of unplanned pregnancies, as well as increase educational and economic opportunities. Utilizing quantitative data from an endline household survey (July 2009) and data from focus group discussions, the Centre for Development and Population Activities (CEDPA) seeks to determine whether spousal communication increases contraceptive use among married women of child-bearing age in Nepal's Central Terai region.

METHODS: Quantitative household survey and qualitative focus group discussions.

RESULTS: Women who discuss family planning with their husbands (OR=7.254), perceive husband approval on family planning (OR=5.558) and have born a son(OR=2.239) are more likely to use a modern contraceptive method. Qualitative data show that several other considerations can be motivating factors for contraceptive uptake.

CONCLUSION: While results do not explain the direction of causality, it is clear that spousal discussion and partner approval are significant in a woman's decision to use modern contraceptives in the Central Terai region of Nepal.

PRACTICE IMPLICATIONS: More research needs to be conducted on the effect of spousal communication and contraceptive use, in particular, the role of frequency, quality, and content of spousal communication, as well as individual motivations. (Yue et al., 2010, Abstract)
8. FAMILY PLANNING INTEGRATION


Some interventions in women before and during pregnancy may reduce perinatal and neonatal deaths, and recent research has established linkages of reproductive health with maternal, perinatal, and early neonatal health outcomes. In this review, we attempted to analyze the impact of biological, clinical, and epidemiologic aspects of reproductive and maternal health interventions on perinatal and neonatal outcomes through an elucidation of a biological framework for linking reproductive, maternal and newborn health (RHMNH); care strategies and interventions for improved perinatal and neonatal health outcomes; public health implications of these linkages and implementation strategies; and evidence gaps for scaling up such strategies. Approximately 1000 studies (up to June 15, 2010) were reviewed that have addressed an impact of reproductive and maternal health interventions on perinatal and neonatal outcomes. These include systematic reviews, meta-analyses, and stand-alone experimental and observational studies.

Evidences were also drawn from recent work undertaken by the Child Health Epidemiology Reference Group (CHERG), the interconnections between maternal and newborn health reviews identified by the Global Alliance for Prevention of Prematurity and Stillbirth (GAPPS), as well as relevant work by the Partnership for Maternal, Newborn and Child Health. Our review amply demonstrates that opportunities for assessing outcomes for both mothers and newborns have been poorly realized and documented. Most of the interventions reviewed will require more greater-quality evidence before solid programmatic recommendations can be made. However, on the basis of our review, birth spacing, prevention of indoor air pollution, prevention of intimate partner violence before and during pregnancy, antenatal care during pregnancy, Doppler ultrasound monitoring during pregnancy, insecticide-treated mosquito nets, birth and newborn care preparedness via community-based intervention packages, emergency obstetrical care, elective induction for postterm delivery, Cesarean delivery for breech presentation, and prophylactic corticosteroids in preterm labor reduce perinatal mortality; and early initiation of breastfeeding and birth and newborn care preparedness through community-based intervention packages reduce neonatal mortality. This review demonstrates that RHMNH are inextricably linked, and that, therefore, health policies and programs should link them together. Such
potential integration of strategies would not only help improve outcomes for millions of mothers and newborns but would also save scant resources. This would also allow for greater efficiency in training, monitoring, and supervision of health care workers and would also help families and communities to access and use services easily. (Bhutta et al., 2010, Abstract)

Liambila W ; Askew I ; Mwangi J ; Ayisi R ; Kibaru J ; Mullick S(2009)Feasibility and effectiveness of integrating provider-initiated testing and counselling within family planning services in Kenya. AIDS,23 (1)115-21 (ISSN: 1473-5571)

OBJECTIVE: To assess an intervention for increasing access to and use of HIV testing among family planning clients through provider-initiated testing and counselling for HIV.

DESIGN: Two versions of the intervention were prospectively compared using a prepost intervention only design. Health facilities were purposively selected and family planning consultations randomly selected.

SETTING: Twenty-three public-sector hospitals, health centres and dispensaries in two districts of Central Province, Kenya.

PARTICIPANTS: One group of 28 family planning providers were trained in the integrated family planning-HIV counselling intervention and in providing HIV testing and counselling to family planning clients requesting a test during the consultation and another group of 47 family planning providers were trained in the intervention and in referring clients interested in an HIV test. Samples of family planning clients willing to be observed and interviewed were randomly selected (538 preintervention, 520 postintervention) and their informed consent obtained to observe their consultation.

INTERVENTION: All family planning providers were trained in an algorithm that integrates HIV/sexually transmitted infection prevention counselling, including offering HIV testing and counselling, with family planning counselling. Clients choosing to be tested were either referred or tested during the consultation by a trained family planning provider.

MAIN OUTCOME MEASURES: The proportion of family planning clients with whom HIV testing was discussed; the proportion offered HIV testing; and the proportion choosing to have a test.
RESULTS: The proportion of consultations in which HIV prevention counselling was provided and HIV testing offered increased significantly. The proportion of clients requesting an HIV test increased from 1 to 26%; approximately one third of these had never been tested previously.

CONCLUSION: Provider-initiated testing and counselling is feasible and acceptable in family planning services, does not adversely affect the quality of the family planning consultation and increases access to and use of HIV testing in a population who would benefit from knowing their status. (Liambila et al., 2009, Abstract)

Spaulding AB ; Brickley DB ; Kennedy C ; Almers L ; Packel L ; Mirjahangir J ; Kennedy G ; Collins L ; Osborne K ; Mbizvo M(2009) Linking family planning with HIV/AIDS interventions: a systematic review of the evidence. AIDS, 23(1)79-88 (ISSN: 1473-5571)

OBJECTIVE: To conduct a systematic review of the literature and examine the effectiveness, optimal circumstances, and best practices for strengthening linkages between family planning and HIV interventions.

DESIGN: Systematic review of peer-reviewed articles and unpublished program reports ('promising practices') evaluating interventions linking family planning and HIV services.

METHODS: Articles were included if they reported post-intervention evaluation results from an intervention linking family planning and HIV services between 1990 and 2007. Systematic methods were used for searching, screening, and data extraction. Quality assessment was conducted using a 9-point rigor scale.

RESULTS: Sixteen studies were included in the analysis (10 peer-reviewed studies and six promising practices). Interventions were categorized into six types: family planning services provided to HIV voluntary counseling and testing (VCT) clients, family planning and VCT services provided to maternal and child health clients, family planning services provided to people living with HIV, community health workers provided family planning and HIV services, VCT provided to family planning clinic clients, and VCT and family planning services provided to women receiving post abortion care. Average study design rigor was low (3.25 out of 9). Most studies reported generally positive or mixed results for key outcomes; no negative results were reported.

CONCLUSION: Interventions linking family planning and HIV services were generally considered feasible and effective, though overall evaluation rigor was low. (Spaulding et al., 2009, Abstract)
9. RETURN TO FERTILITY


OBJECTIVES: To estimate, from the literature, when nonlactating postpartum women regain fertility.

DATA SOURCES: We searched PubMed and Cochrane Library databases for all articles (in all languages) published in peer-reviewed journals from database inception through May 2010 for evidence related to the return of ovulation and menses in nonlactating postpartum women. Search terms included "Fertility" (Mesh) OR "Ovulation" (Mesh) OR "Ovulation Detection" (Mesh) OR "Ovulation Prediction" (Mesh) OR fertility OR ovulat* AND "Postpartum Period" (Mesh) OR postpartum OR puerperium AND Human AND Female.

METHODS OF STUDY SELECTION: We included articles assessing nonlactating women's first ovulation postpartum. Studies in which women breastfed for any period of time or in whom lactation was suppressed with medications were excluded.

TABULATION, INTEGRATION AND RESULTS: We identified 1,623 articles; six articles reported four studies met our inclusion criteria. In three studies utilizing urinary pregnanediol levels to measure ovulation, mean day of first ovulation ranged from 45 to 94 days postpartum; 20%-71% of first menses were preceded by ovulation and 0%-60% of these ovulations were potentially fertile. In one study that used basal body temperature to measure ovulation, mean first ovulation occurred on day 74 postpartum; 33% of first menses were preceded by ovulation and 70% of these were potentially fertile.

CONCLUSION: Most nonlactating women will not ovulate until 6 weeks postpartum. A small number of women will ovulate earlier, potentially putting them at risk for pregnancy sooner, although the fertility of these early ovulations is not well-established. The potential risk of pregnancy soon after delivery underscores the importance of initiating postpartum contraception in a timely fashion. (Jackson and Glasier, 2009, Abstract)
10. PROGESTIN-ONLY CONTRACEPTION


Objective: Assess the safety in the haemostatic system of Etonogestrel (ENG)-releasing contraceptive implant inserted in the period of highest risk for thrombosis throughout reproductive years.

Material and Methods: Forty healthy women aged 18 to 35 years-old were randomized to receive either ENG-releasing implant 24 - 48 h after delivery (n = 20) or depot medroxyprogesterone acetate (control group; n = 20) at the 6th week postpartum. Blood samples were collected to evaluate haemostatic variables [fibrinogen, coagulation factors (F) II, V, VII, VIII, IX, X, XI; protein C; free protein S, antithrombin, activated protein C resistance; tissue plasminogen activator; α2-antiplasmin; PAI-1; thrombin-antithrombin complex; prothrombin fragment 1 + 2; D dimers; TTPA; TP and TT] at 24 - 48 hours, at 6 and 12 weeks after delivery. ANOVA and unpaired t-Student tests were used as appropriated.

Results: At baseline, groups have similar clinical characteristics and laboratory exams. There were a higher reduction in FII (Control: -30.03 ± 24.54% vs. ENG: -13.53 ± 24.70%, p = 0.041), FV (Control: -24.17 ± 20.23% vs. ENG: -9.73 ± 17.88%, p = 0.02), FVII (Control: -58.6 ± 32.3% vs. ENG: -11.2 ± 41.3%, p < 0.0001), FX (Control: -23.58 ± 19.02% vs. ENG: + 0.7 ± 40.49%, p = 0.02) and protein C (Control: -22.64 ± 15.49% vs. ENG: -6.92 ± 17.99%, p = 0.005) in the control group during the 12 weeks. During the first six weeks, occurred a greater declined in FIX (Control: -21.76 ± 8.62% vs. ENG: -14.53 ± 10.59%, p = 0.023) and fibrinogen (Control: -222.45 ± 94.72 mg/dL vs. ENG: -149.35 ± 99.71 mg/dL, p = 0.023) in control group. The changes in remainder variables did not differ between the groups.

Conclusions: The ENG-releasing contraceptive implant, represents an option for contraception during the postpartum period, classically recommended after six weeks postpartum. However for patients at risk for short intergestational period, it could be started earlier. This study did not
observe any deleterious effects in haemostatic system when this implant was inserted immediately after delivery, during the period of highest risk for thrombosis throughout reproductive years, the first twelve weeks postpartum. So this could be an interesting long-acting reversible contraceptive method for patients at risk for short intergestational interval. (Brito et al., 2010, Abstract)


Although combined oral contraceptives (COCs) are commonly used and highly effective in preventing pregnancy, they may not be suitable for some women. COC use is associated with increased rates of cardiovascular events and is not recommended in nonbreastfeeding women in the immediate postpartum period or in breastfeeding women during the initial 6 months of breastfeeding. Moreover, estrogen-related adverse effects, such as headache, are common. Estrogen-free progestin-only pills (POPs) are a valuable option in women who prefer to take an oral hormonal contraceptive, but are ineligible for, or choose not to use, COCs. Although some POPs have been associated with lower contraceptive effectiveness than COCs, the POP containing desogestrel has shown similar contraceptive effectiveness to COCs. The most commonly reported complaints in women using all POPs are bleeding problems. Counseling women interested in using POPs about the variable bleeding patterns associated with this method may improve compliance and acceptance. (de Melo, 2010, Abstract)

Duvan C.I., Gözdemir E., Kaygusuz I., Kamalak Z., Turhan N.O (2010). Etonogestrel contraceptive implant (implanon): Analysis of patient compliance and adverse effects in the breastfeeding period. Journal of the Turkish German Gynecology Association, 11(3)141-144

Objective: To analyse the compliance of patients and side effects of Implanon® during breast feeding.

Material and Methods: Prospective study of 61 postpartum women who chose Implanon® for long term contraception between April 2007 and December 2009. Compliance, side effects and removals were recorded.
Results: Amenorrhea, prolonged bleeding, frequent bleeding and infrequent bleeding were reported in 20 (32%), 13 (21%), 4 (6.5%) and 2 (3.2%) patients, respectively. Non-menstrual side effects experienced by participants included; weight gain reported by 10 patients (16%), anxiety by 6 (9.8%), breast tenderness by 4 (6.5%), headache by 4 (6.5%), pain at the insertion site by two (3.2%), hirsutism by two (3.2%), acne by 1 (1.6%), loss of libido by 1 (1.6%), weight gain and headache by two (3.2%), weight gain and anxiety by two (1.6%). The mean breastfeeding period was 16±7.4 months. During the follow up, Implanon® was removed from 24 patients (39%).

Conclusion: If patients are well informed about its expected side effects before placement, Implanon® is well tolerated and is an acceptable choice for women who have recently experienced labor and are looking for long term reversible contraception. (Duvan et al., 2010, Abstract)


Background: The use of progestogen-only contraceptives by breastfeeding women raises theoretical concerns regarding possible adverse effects on breastfeeding success, and infant health or growth. This review was conducted to determine from the literature whether use of progestogen-only contraceptives by breastfeeding women leads to adverse effects on lactation, or infant growth or health when compared to nonuse.

Study Design: We searched the Medline, Popline, Cochrane and LILACS databases for all articles published from database inception through May 2009. Studies were included if they investigated the use of progestogen-only methods in breastfeeding women and reported on clinical outcomes in either women or their infants. Standard data abstraction templates were used to systematically assess and summarize. Summary odds ratios were not calculated, given the heterogeneity of interventions, results and non-quantifiable outcomes reported.

Results: We identified 43 articles for this review. Overall, five randomized trials and 38 observational studies demonstrated no adverse effects of various progestogen-only methods of contraception on multiple measures of breastfeeding performance through 12 months in women using these methods in the postpartum period. Many of these studies also demonstrated no adverse effects of progestogen-only methods on infant growth, health or development from 6 months to 6 years of age. Additional studies demonstrated no effects on infant immunoglobulins or sex
hormones of exposed male infants. A single study of a desogestrel pill reported two cases of gynecomastia in exposed infants.

**Conclusions:** Evidence suggests that progestogen-only methods of contraception do not adversely affect breastfeeding performance when used during lactation. Evidence that progestogen-only contraception does not adversely affect infant growth, health, or development when used by breastfeeding women is consistent but methodologically limited (Kapp et al., 2010, Abstract)
11. POSTPARTUM CONTRACEPTION IN SPECIAL POPULATIONS

Cristina Morales Martínez; M. Luz Lamelas Suárez-Polaa; Sonia Tejuca Somoanoa; Isabel Álvarez Miranda. (2010) Postpartum contraception in women at risk of social exclusion. Progresos de Obstetricia y Ginecología, 54(1), 16-20

Objective: Improve birth control rates in women from vulnerable populations, space time out between pregnancies and reduce the rate of abortions.

Material and methods: We gave 90 pregnant women at risk of social exclusion an appointment for a postpartum check-up a month and a half after their expected due date, with a SMS reminder 48 hours before the appointment and a phone number in case they failed to make the appointment. We strive to implement long-term methods on the day of appointment.

Results: 92% attended the postnatal visit. The overall rate of contraception was 86%, 68% were long-term methods: subdermal implants and IUDs.

Conclusion: Consultation with postpartum women from disadvantaged social groups can be very useful to facilitate contraceptive methods which are safe, effective and long-lasting. Flexibility and agility in the implementation of the methods are essential. (C. Morales Martínez et al., 2010, Abstract)


Objectives: Because chronic medical conditions can worsen in pregnancy and adversely affect maternal and fetal health, family planning in this population is important. Prenatal care provides an opportunity for contraceptive counseling. In women with medical diseases, contraceptive counseling may be over-shadowed by management of their conditions and by the complexity of counseling. We sought to compare postpartum contraception methods prescribed to women with and without chronic medical conditions.
**Method:** We conducted a retrospective cohort study using a database of patients who delivered between July 2004 and September 2007. Women with diabetes, chronic hypertension, cardiac disease, pulmonary embolism or venous thromboembolism were compared to matched controls. Chi-Square and t tests were used to compare data between the two groups.

**Results:** Total sample size was 8314 women, 752 with chronic medical conditions and 7562 controls. 81% of women with medical conditions versus 86% of controls received postpartum contraception. (p<.001). Women with diabetes (83%, p=.04), hypertension (80%, p<.001) and heart disease (75%, p<.01) were less likely than their matched controls to receive postpartum contraception. Progesterone only methods were the most commonly prescribed contraception for both cohorts (28%) and controls (30%). Nine percent of cohort versus four percent of controls underwent postpartum sterilization (p<.001).

**Conclusions:** At an urban university hospital, women with chronic medical conditions, specifically diabetes, hypertension and heart disease, were less likely than their healthy peers to receive postpartum contraception upon hospital discharge. (Gerhard et al., 2010, Abstract)


**Background:** Adolescents consistently demonstrate the lowest rates of breastfeeding among women of reproductive age despite well-documented benefits of breastfeeding. In Amarillo, Texas, a medium-sized community with a perennially high teen pregnancy rate, we sought (1) to determine breastfeeding practices among adolescent females immediately after delivery and again at 6 weeks and (2) to identify contraceptive choices among the same teen population.

**Methods:** This was a retrospective chart review focused on adolescents between the ages of 13 and 18 coming to a university-based obstetrical service between January 1, 2006, and December 31, 2008. Data on breastfeeding and contraceptive practices were analyzed.

**Results:** Five hundred forty-three cases were analyzed. At hospital discharge, 59.3% initiated breastfeeding, but this dropped to 22.2% at the 6-week postpartum appointment. Over 27% of all
study subjects failed to appear for postpartum evaluation. Multiparity was the only outcome variable associated with failure to initiate breastfeeding. Depot-medroxyprogesterone acetate, the levonorgestrel intrauterine device (IUD), and combination oral contraceptives were the most popular contraceptive choices, but 16% elected to forego any form of contraception at the postpartum visit.

**Conclusions:** Adolescent women living in an area of Texas with a high teen pregnancy rate reported relatively low breastfeeding rates immediately postpartum, with a >50% decrease in breastfeeding in any form by 6 weeks postpartum. A substantial number failed to initiate any form of contraception at the postpartum visit. These findings support the critical need for additional breastfeeding support and contraceptive education in this at-risk adolescent population. (Glass et al., 2010, Abstract)

Guazzelli CA ; de Queiroz FT ; Barbieri M ; Torloni MR ; de Araujo FF (2010) Etonogestrel implant in postpartum adolescents: bleeding pattern, efficacy and discontinuation rate. Contraception. 82(3):256-9 (ISSN: 1879-0518)

**BACKGROUND:** The increasing rate of teenage pregnancies is a challenge to health professionals. New contraceptive methods have been developed to try to improve adherence in this group of patients. The study was conducted to evaluate the bleeding pattern, efficacy and discontinuation rate of etonogestrel implant (68 mg) inserted in postpartum adolescents.

**STUDY DESIGN:** The study population comprised 44 postpartum adolescents managed at the Family Planning Sector of São Paulo Federal University. The implant was inserted, on average, 102 days after delivery. Patients were followed prospectively during four 90-day periods.

**RESULTS:** All 44 patients completed the 12 months of follow-up, resulting in a study discontinuation rate of 0%. No implants were removed. There were no pregnancies during the study. After 1 year of use, frequent and prolonged bleeding were reported by less than 5% of the patients and amenorrhea occurred in 38.6% of the users. Laboratory parameters indicated a significant increase in hemoglobin and hematocrit among users.

**CONCLUSION:** These findings suggest that the etonogestrel implant is a safe and effective contraceptive method that is well accepted by adolescents after a pregnancy. (Guazzelli et al., 2010, Abstract)

Women who have had gestational diabetes mellitus must be monitored in the immediate postpartum period to ensure that blood glucose levels return to normal without further treatment. In the few studies performed specifically in these women, those that breastfed did not have a different metabolic profile, at least during the period of breastfeeding; the metabolic profiles of children born to women that had gestational diabetes and that breastfed also did not differ from those that were not breastfed. The choice of contraception must mainly take into consideration the associated risk factors. The studies, even if few have specifically focused on women with a history of gestational diabetes, have not demonstrated a significant disturbance of glucose metabolism while using hormonal contraception, whether combined oral oestrogen/progestogen or progestogen-only contraception. However, the presence of obesity, hypertension, or dyslipidaemia must direct the choice of contraception towards one without cardiovascular consequences. In these cases, the intrauterine device is an excellent choice. (Kerlan, 2010, Abstract)


Background: This study was conducted to compare the incidence of repeat teenage pregnancy over a 24-month period postpartum among users of Implanon, the combined oral contraceptive pill (COCP) or depot medroxyprogesterone acetate (DMPA) and barrier methods or nothing (barrier/none). Contraceptive continuation rates 24 months postpartum for Implanon and COCP/DMPA were also compared.

Study Design: A prospective cohort study was conducted. Comparison groups were postpartum teenagers (12-18 years old) who self-selected Implanon (n=73), COCP/DMPA (n=40) and barrier/none (n=24). Questionnaires were used to gather data at recruitment and postpartum at 6 weeks and then 3 monthly intervals for 2 years.
**Results:** At 24 months postpartum, 48 (35%) teenagers had conceived. Implanon users became pregnant later than other contraceptive groups (p=0.022), with mean time to first repeat pregnancy of 23.8 months [95% confidence interval (CI), 22.2-25.5], compared to 18.1 months (95% CI, 15.1-20.7) for COCP/DMPA and 17.6 months (95% CI, 14.0-21.3) for barrier/none. Implanon users were more likely to continue their use at 24 months than COCP/DMPA (p<0.001) users. The mean duration for Implanon users was 18.7 months (95% CI, 17.0-20.3) compared to 11.9 months (95% CI, 9.5-14.3) for COCP/DMPA.

**Conclusion:** Teenagers who choose Implanon are significantly less likely to become pregnant and were found to continue with this method of contraception 24 months postpartum compared to those who choose COCP or DMPA and barrier methods or nothing. (Lewis et al., 2010, Abstract)

---


Kara is a 15-year-old African American teen who is 2 weeks postpartum and has come today for birth control. Her body mass index (BMI) today is 32. The young man who fathered her child is no longer part of her life, but she has begun a new relationship with another young man. Her pregnancy resulted because of inconsistent oral contraceptive use, and she clearly is at risk for a repeat pregnancy because of the new relationship. For a variety of reasons, she has chosen to use depot medroxyprogesterone acetate (DMPA). Recent studies have revealed that it is not only possible to tailor DMPA prescribing practices to individual teen characteristics, but it may be medically indicated because of possible effects on future health. (Nicoletti, 2010, Abstract)


**Objectives:** Health literacy is the ability to apply reading skills to health-related materials such as prescriptions, appointment cards and medicine labels. The aim of the current study is to identify what contraceptive method patients with low health literacy are choosing and if they are attending the postpartum visit.

**Method:** A previously validated screening tool, the Test for Functional Health Literacy in Adults-Short Version, was given to all patients who presented for prenatal care at University Obstetrics Associates during a 9-week period in 2005. A retrospective chart review of these patients was
performed and age, gravidity, parity, contraceptive choice and follow-up at the 6-week postpartum visit were recorded. Data were analyzed using chi-squared tests.

**Results:** Three hundred sixty-one patients presented for prenatal care during the study period, and 341 completed the literacy screen (94%). Eighteen percent of the English speaking patients and 53% of the Spanish speaking patients had compromised health literacy (p<.0001). Thirty-six percent of the patients with compromised health literacy versus 28% with adequate health literacy chose Depo-Provera for contraception (p=.242). Sixty-two percent of patients with compromised health literacy versus 54% of patients with adequate health literacy followed up at the 6-week postpartum visit (p=.192).

**Conclusions:** A high percentage of patients at University Obstetrics Associates have compromised health literacy. Spanish-speaking patients are more likely to have low health literacy. Health literacy is not related to choice of Depo-Provera as a contraceptive or attendance at the 6 week postpartum visit. (Schaefer et al., 2010, Abstract)

Tsai R ; Schaffir J (2010) Effect of depot medroxyprogesterone acetate on postpartum depression. Contraception. 82(2):174-7 (ISSN: 1879-0518)

**BACKGROUND:** Depot medroxyprogesterone acetate (DMPA) is commonly prescribed to women immediately postpartum due to its efficacy, convenience and lack of estrogen. It is unclear whether administering a progestin injection can affect the course of postpartum depression (PPD), which some suspect to be influenced by hormonal changes. In this retrospective study, the objective was to determine whether DMPA administered immediately postpartum influences the development of PPD.

**STUDY DESIGN:** A retrospective review of a total of 404 charts was conducted of clinic patients who were scheduled for 6-week postpartum visits at a major medical center, where all patients are routinely asked to complete the Edinburgh Postnatal Depression Scale (EPDS). The average scores on the EPDS at these visits were compared between patients who had received DMPA prior to postpartum discharge from the hospital and patients who had not received any hormonal contraception by using an unpaired t test. In addition, the proportions of women diagnosed with PPD via the scale were compared via contingency tables.
RESULTS: Fifty-five women who had received immediate DMPA were compared with 192 women with no hormonal contraception after delivery. The groups were similar in parity, race, mode of delivery and weight, but women receiving DMPA were significantly younger (24.2 vs. 26.2 years, p=.03). Mean EPDS scores at 6 weeks postpartum were not statistically significant between the groups (5.02 vs. 6.17, p=.16). Six patients (10.9%) who received immediate DMPA were diagnosed with PPD based on EPDS scores greater than or equal to 13, while 27 (14.1%) in the comparison group had PPD (p=.88).

CONCLUSION: Administration of DMPA in the immediate postpartum period does not appear to predispose women to PPD. (Tsai and Schaffir, 2010, Abstract)
12. PRENATAL AND NEW BORN HEALTH


**Background:** Exclusive breast feeding (EBF) has important protective effects on the survival of infants and decreases risk for many early-life diseases. The purpose of this study was to assess the factors associated with EBF in Nigeria.

**Methods:** Data on 658 children less than 6 months of age were obtained from the Nigeria Demographic and Health Survey (NDHS) 2003. The 2003 NDHS was a multi-stage cluster sample survey of 7864 households. EBF rates were examined against a set of individual, household and community level variables using a backward stepwise multilevel logistic regression method.

**Results:** The average EBF rate among infants younger than 6 months of age was 16.4% (95%CI: 12.6%-21.1%) but was only 7.1% in infants in their fifth month of age. After adjusting for potential confounders, multivariate analyses revealed that the odds of EBF were higher in rich (Adjusted Odds Ratios (AOR) = 1.15, CI = 0.28-6.69) and middle level (AOR = 2.45, CI = 1.06-5.68) households than poor households. Increasing infant age was associated with significantly less EBF (AOR = 0.65, 95%CI: 0.51-0.82). Mothers who had four or more antenatal visits were significantly more likely to engage in EBF (AOR = 2.70, 95%CI = 1.04-7.01). Female infants were more likely to be exclusively breastfed than male infants (AOR = 2.13, 95%CI = 1.03-4.39). Mothers who lived in the North Central geopolitical region were significantly more likely to exclusively breastfeed their babies than those mothers who lived in other geopolitical regions.

**Conclusions:** The EBF rate in Nigeria is low and falls well short of the expected levels needed to achieve a substantial reduction in child mortality. Antenatal care was strongly associated with an increased rate of EBF. Appropriate infant feeding practices are needed if Nigeria is to reach the child survival Millennium Development Goal of reducing infant mortality from about 100 deaths per 1000 live births to a target of 35 deaths per 1000 live births by the year 2015. (Agho et al., 2011, Abstract)

**Objective:** to report anthropometry and morbidity among term low birth weight infants and anthropometry of their first time mothers during the first six months in relation to breastfeeding practice.

**Study Design:** we examined data from a randomized controlled trial in Manila, the Philippines. Of the 204 mothers randomized, 68 mothers received eight postpartum breastfeeding counseling sessions, the rest did not. Maternal and infant anthropometric data at birth, 2, 4 and 6 months were taken. During seven follow-up hospital visits, an independent interviewer recorded feeding data.

**Results:** the 24 infants exclusively breastfed from birth to six months did not have diarrhea compared to 134 partially breastfed (mean 2.3 days) and 21 non-breastfed infants (mean 2.5 days). Partially breastfed and non-breastfed infants compared to exclusively breastfed infants had more frequent, as well as more severe episodes of respiratory infections. At six months, neither overall gain in infant weight, length and head circumferences nor mean maternal weight and body mass index differed significantly between the feeding groups. Exclusive breastfeeding for 6 months can be recommended in term low birth weight infants, who were protected from diarrhea, had fewer respiratory infections, required no hospitalization and had catch up growth. Exclusively breastfeeding mothers did not differ from mothers who breastfed partially or those who did not breastfeed with regard to weight changes at six months. (Agrasada et al., 2011, Abstract)


The study aims to assess the relation between breastfeeding duration and age at menarche. Analysis was based on a cohort of 994 Filipino girls born in 1983-1984 and followed up from infancy to adulthood by the Cebu Longitudinal Health and Nutrition Survey. The main outcome was self-reported age at menarche. Cox regression was used to investigate the relation between duration of exclusive and any breastfeeding with age at menarche with adjustment sequentially for specific sets of known socioeconomic, maternal, genetic, and prenatal confounders. The estimated median of age at menarche was 13.08 years. After adjustment for potential confounders of the association of
breastfeeding with age at menarche, exclusive breastfeeding duration retained an independent and significant association with age at menarche. An increase in 1 month of exclusive breastfeeding decreases the hazard of attaining earlier menarche by 6% (hazard ratio = 0.94, 95% confidence interval: 0.90, 0.98). Any breastfeeding duration was not associated with age at menarche. Although this is the first longitudinal study that reveals a negative association between exclusive breastfeeding and early menarche, the relation is still elusive. Further longitudinal studies within different contexts are warranted to assess the generalizability of these findings. (Al-Sahab et al., 2011, Abstract)

Choosing an infant feeding mode is complex for human immunodeficiency virus (HIV)-infected African women. We documented infant feeding choices by 811 mothers of infants aged less than 18 months enrolled in the Chilenje Infant Growth, Nutrition and Infection Study of fortified complementary or replacement foods. We also conducted 20 interviews and 4 focus group discussions among women and nurses to explore the issues in depth. Practices of most HIV-infected women did not closely follow national or international guidelines: 26% never initiated breastfeeding, and 55% were not breastfeeding by 6 months post partum. Women of lower socio-economic status and those not meeting criteria for safe replacement feeding were more likely to initiate breastfeeding, to continue longer and to stop at 6 months when provided with free food within the trial. Most HIV-negative women and women of unknown HIV status continued breastfeeding into the infant's second year, indicating limited 'spillover' of infant feeding messages designed for HIV-infected women into the uninfected population. Qualitative work indicated that the main factors affecting HIV-infected women's infant feeding decisions were the cost of formula, the advice of health workers, influence of relatives, stigma and difficulties with using an exclusive feeding mode. Rapidly changing international recommendations confused both mothers and nurses. Many HIV-infected women chose replacement feeding without meeting criteria to do this safely. Women were influenced by health workers but, for several reasons, found it difficult to follow their advice. The recently revised international HIV and infant feeding recommendations may make the counselling process simpler for health workers and makes following their advice easier for HIV-infected women. (Chisenga et al., 2010, Abstract)

The present review outlines the role of breastfeeding in diabetes. In the mother, breastfeeding has been suggested to reduce the incidence of type 2 diabetes mellitus, the metabolic syndrome and cardiovascular disease. Moreover, it appears to reduce the risk of premenopausal breast cancer and ovarian cancer. In the neonate and infant, among other benefits, lactation confers protection from future both type 1 and type 2 diabetes. Whether lactation protects women with gestational diabetes mellitus and their offspring from future T2DM remains to be answered. Importantly, for diabetic mothers, antidiabetic treatment itself may affect breastfeeding. There is not enough data to allow the use of oral hypoglycaemic agents. Therefore, insulin currently remains the optimal antidiabetic treatment during lactation.

In conclusion, breastfeeding could be considered a modifiable risk factor for the development of diabetes and even a potential protective lifestyle measure from future cardio-metabolic and malignant diseases. Therefore, health care professionals should encourage both women with and without diabetes to breastfeed their children. (Gouveri et al, 2011, Abstract)


Background & objectives: Vitamin D deficiency with a resurgence of rickets and tetany are increasingly being reported in young infants from temperate regions, African Americans and also from India. The data on vitamin D status of healthy term breastfed Indian infants and mothers are scant. Therefore, we undertook this study to determine the prevalence of vitamin D deficiency and insufficiency [serum 25 hydroxyvitamin D (25OHD) ≤ 15 ng/ml and 15-20 ng/ml, respectively] among healthy term breastfed 3 month old infants and their mothers, evaluate for clinical and radiological rickets in those infants having 25OHD < 10 ng/ml, and check for seasonal variation and predictors of infants' vitamin D status.

Methods: A total of 98 infants aged 2.5 to 3.5 months, born at term with appropriate weight and their mothers were enrolled; 47 in winter (November- January) and 51 in summer (April-June). Details of infants' feeding, vitamin D supplementation, sunlight exposure and mothers' calcium and
vitamin D intake were recorded. Serum calcium, phosphate, alkaline phosphatase, 25 hydroxyvitamin D (25OHD) and parathormone were estimated.

**Results:** Vitamin D deficiency was found in 66.7 per cent of infants and 81.1 per cent of mothers; and insufficiency in an additional 19.8 per cent of infants and 11.6 per cent of mothers. Radiological rickets was present in 30.3 per cent of infants with 25OHD < 10 ng/ml. 25OHD did not show seasonal variation in infants but maternal concentrations were higher in summer [11.3 (2.5 - 31) ng/ml] compared to winter [5.9 (2.5-25) ng/ml, \(P=0.003\)]. Intake of vitamin supplement, sunlight exposure and mother's 25OHD were predictors of infants' 25OHD levels. Interpretation &

**Conclusions:** Prevalence of vitamin D deficiency and insufficiency was found to be high in breastfed infants and their mothers, with radiological rickets in a third of infants with 25OHD < 10 ng/ml in this study. Studies with large sample need to be done in different parts of the country to confirm these findings. (Jain et al., 2011, Abstract)


**OBJECTIVE:** To assess equity in health outcomes and interventions for maternal and child health (MCH) services in Thailand.

**METHODS:** Women of reproductive age in 40 000 nationally representative households responded to the Multiple Indicator Cluster Survey in 2005-2006. We used a concentration index (CI) to assess distribution of nine MCH indicator groups across the household wealth index. For each indicator we also compared the richest and poorest quintiles or deciles, urban and rural domiciles, and mothers or caregivers with or without secondary school education.

**FINDINGS:** CHILD UNDERWEIGHT (CI: -0.2192; \(P < 0.01\)) and stunting (CI: -0.1767; \(P < 0.01\)) were least equitably distributed, being disproportionately concentrated among the poor; these were followed by teenage pregnancy (CI: -0.1073; \(P < 0.01\)), and child pneumonia (CI: -0.0896; \(P < 0.05\)) and diarrhoea (CI: -0.0531; \(P < 0.1\)). Distribution of the MCH interventions was fairly equitable, but richer women were more likely to receive prenatal care and delivery by a skilled health worker or in a health facility. The most equitably distributed interventions were child immunization
and family planning. All undesirable health outcomes were more prevalent among rural residents, although the urban-rural gap in MCH services was small. Where mothers or caregivers had no formal education, all outcome indicators were worse than in the group with the highest level of education. (Limwattananon et al., 2010, Abstract)


**Aim:** To determine the effect of mothers receiving health promotion material and education antenatally and/ or postnatally on breastfeeding outcomes in Perth, Western Australia.

**Methods:** A 12-month longitudinal study was conducted in two public maternity hospitals in Perth, Western Australia, between 2002 and 2003. Data were collected on a consecutive sample 587 mothers.

**Results:** The results showed that mothers who received an individual consultation or were involved in a discussion on breastfeeding antenatally with hospital staff were approximately 55% less likely to cease fully breastfeeding (HR 0.44; 95% CI 0.24-0.88) before 6 months, and 50% less likely to cease any breastfeeding before 12 months postnatally (HR 0.51; 95% CI 0.28-0.92). In the postnatal period, mothers who received instruction on positioning and attachment of the infant to the breast while in hospital were approximately 30% less likely to cease fully breastfeeding before 6 months (HR 0.66; 95% CI 0.45-0.99).

**Conclusion:** The results of this study suggest a positive association between receiving individualized breastfeeding information in both the antenatal and postnatal period, and breastfeeding outcomes. (Pannu et al., 2011, Abstract)


Even with the gradual upward trends in breastfeeding initiation and duration, breastfeeding rates at 6 months continue to lag well behind the 50% target set for any breastfeeding and the 25% target set for exclusive breastfeeding by the Healthy People 2010 initiatives. Overall evidence is limited in identifying effective interventions that promote breastfeeding duration and more research needs to be focused on specific nursing strategies and their effect on breastfeeding outcomes. The aim of this
study was to test the efficacy of a daily feeding log, guided by Bandura's social cognitive learning theory, on breastfeeding duration and exclusivity in primiparous mothers. The study used a randomized, controlled, two-group experimental design with a sample of 86 primiparous mothers. The experimental group completed a daily breastfeeding log for a minimum of 3 weeks and breastfeeding outcomes were examined over 6 months. The breastfeeding outcome variable was analyzed using survival analysis and Cox proportional hazards regression procedures. Subjects in the experimental group did not breastfeed significantly longer than the control group, however, a larger proportion of subjects in the experimental group reported full breastfeeding at 6 months as compared with subjects in the control group. Additional predictor variables were WIC enrollment, planned duration of breastfeeding, feeding frequency and feeding length at 1 week. The findings from the study suggest that the breastfeeding log may be a valuable tool in self-regulating breastfeeding and promoting a longer duration of full breastfeeding, but its acceptability may be impacted by socio-demographic variables. (Pollard, 2011, Abstract)


BACKGROUND: In non malaria regions, iron/folic acid supplementation during pregnancy protects newborns against preterm delivery and early neonatal death. Other studies from malaria-endemic areas have reported an adverse effect of iron supplements on malaria prevalence in pregnant women.

OBJECTIVE: We examined the association between iron/folic acid supplements and prenatal antimalaria prophylaxis on neonatal mortality in malaria-endemic countries of sub-Saharan Africa.

DESIGN: This analysis used the most recent data from Demographic and Health Surveys of 19 malaria-endemic countries in sub-Saharan Africa. Survival information of 101,636 singleton live-born infants from the most recent delivery of ever-married women ≤5 y before each survey was examined. The effect of each potential predictor on neonatal deaths was analyzed by using Cox proportional hazards regression models.
**RESULTS:** Infants whose mothers received any iron/folic acid supplements and sulfadoxine-pyrimethamine intermittent preventive treatment (SP-IPT(p)) for malaria during pregnancy were significantly protected from neonatal death [hazard ratio (HR): 0.76; 95% CI: 0.58, 0.99]. The protective effect was not significant in mothers who received only iron/folic acid supplements (HR: 0.90; 95% CI: 0.73, 1.12) or only SP-IPT(p) (HR: 1.08; 95% CI: 0.74, 1.57). Among the sociodemographic and birth characteristics, factors that significantly increased the risk of neonatal death included first-born infants, a birth interval of <2 y, maternal age at delivery of > or =30 y, smaller than average-sized infants, and male infants.

**CONCLUSION:** The use of antenatal iron/folic acid supplements combined with appropriate intermittent preventive treatment of malaria during pregnancy is an important intervention to reduce neonatal mortality in malaria-endemic regions. (Titaley et al., 2010, Abstract)


**Background:** We examined correlates of infant morbidity and mortality within the first 3 months of life among HIV-exposed infants receiving post-exposure antiretroviral prophylaxis in South Africa.

**Methods:** We conducted a prospective cohort study of 848 mother-child dyads. Multivariable Cox proportional hazards models were used.

**Results:** The main causes of infant morbidity were gastrointestinal and respiratory infections. Morbidity was higher with infant HIV infection (HR: 2.61; 95% CI: 1.40-4.85; p=0.002) and maternal plasma viral load (PVL) >100 000 copies ml-1 (HR: 1.87; 95% CI: 1.01-3.48; p=0.048), and lower with maternal age <20 years (HR: 0.25; 95% CI: 0.07-0.88; p=0.031). Mortality was higher with infant HIV infection (HR: 4.10; 95% CI: 1.18-14.31; p=0.027) and maternal PVL >100 000 copies ml-1 (HR: 6.93; 95% CI: 1.64-29.26; p=0.008). **Infant feeding status did not influence the risk of morbidity nor mortality.**

**Conclusions:** Future interventions that minimize pediatric HIV infection and reduce maternal viremia, which are the main predictors of child health soon after birth, will impact positively on infant health outcomes. (Venkatesh et al., 2011, Abstract)

Progress towards reducing mortality and malnutrition among children<5 years of age has been less than needed to achieve related Millennium Development Goals. Therefore, several international agencies joined to 'Reposition children's right to adequate nutrition in the Sahel', starting with an analysis of current activities related to infant and young child nutrition (IYCN). The objectives of the present paper are to compare relevant national policies, training materials, programmes, and monitoring and evaluation activities with internationally accepted IYCN recommendations. These findings are available to assist countries in identifying inconsistencies and filling gaps in current programming. Between August and November 2008, key informants responsible for conducting IYCN-related activities in Burkina Faso were interviewed, and 153 documents were examined on the following themes: optimal breastfeeding and complementary feeding practices, prevention of micronutrient deficiencies, screening and treatment of acute malnutrition, prevention of mother-to-child transmission of HIV, food security and hygienic practices. National policy documents addressed nearly all of the key IYCN topics, specifically or generally. Formative research has identified some local barriers and beliefs related to general breastfeeding and complementary feeding practices, and other formative research addressed about half of the IYCN topics included in this review. However, there was little evidence that this formative research was being utilized in developing training materials and designing programme interventions. Nevertheless, the training materials that were reviewed do provide specific guidance for nearly all of the key IYCN topics.

Although many of the IYCN programmes are intended for national coverage, we could only confirm with available reports that programme coverage extended to certain regions. Some programme monitoring and evaluation were conducted, but few of these provided information on whether the specific IYCN programme components were implemented as designed. Most surveys that were identified reported on general nutrition status indicators, but did not provide the detail necessary for programme impact evaluations.

The policy framework is well established for optimal IYCN practices, but greater resources and capacity building are needed to: (i) conduct necessary research and adapt training materials and
programme protocols to local needs; (ii) improve, carry out, and document monitoring and evaluation that highlight effective and ineffective programme components; and (iii) apply these findings in developing, expanding, and improving effective programmes. (Wuehler and Ouedraogo, 2011, Abstract)


Background: There are many studies shown the advantages of breastfeeding, not only for the infant, but also for the mother. There is no doubt that breastfeeding carries many advantages. Mother’s milk is more benefit than formula. Breastfeeding reduce the risk of post natal bleeding infectious disease, breast and ovarian cancer, iron deficiency anemia and even death. There are several factors influence exclusive breastfeeding in the first six month after birth. It is necessary that hygienic systems and mothers baby clinics do suitable proceeding to increase the rate of breastfeeding.

Methods: This cross sectional study conducted in Isfahan urban health centers in 2008. The sample size was calculated by especial formula for prevalence study. In this study, we selected 656 children living in Isfahan by easy method. The data were analyzed by SPSS software using Student-t and chisquare test.

Finding: 537 (819%) were fed by breastfeeding and 119 (18.1%) were fed by formula. In addition, 235 of boys (78.9%) and 301 of girls (84.3%) were feed by breastfeeding and the difference between two groups was not statistically significant. Many factors have positive role for breastfeeding such as mothers' awareness mothers job, rank of birth, birth weight and etc and this factors must be noticed by responsibility of public health.

Conclusion: This study showed the effect of some factors such as socioeconomic status of family, birth weight, type of delivery and etc in the breastfeeding. (Yaghini et al., 2011, Abstract)

Purpose: This study examined the relationship between the breastfeeding efficacy and quality of life (QoL) in a sample of 89 mothers from southern Brazil. To the authors' knowledge, this is the first study to explore correlations between maternal QoL and breastfeeding efficacy in Brazil.

Methods: Research participants completed the Portuguese version of the World Health Organization Quality of Life-BREF and Multicultural Quality of Life Index questionnaires. Breastfeeding efficacy was evaluated through the Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF). Correlations between the scores of the QoL instruments and the BSES-SF were examined using Pearson product-moment correlation coefficients.

Results: There were significant correlations among the scores of the two QoL questionnaires and the BSES-SF. Multiple regression analysis revealed that both QoL instruments significantly predicted BSES-SF scores. Neither socioeconomic status nor level of educational attainment was a significant predictor of breastfeeding efficacy.

Conclusions: The results from the present study indicate that breastfeeding efficacy is significantly related to QoL among mothers in southern Brazil. The association between QoL and breastfeeding efficacy appears to be independent from any effect of socioeconomic status or level of educational achievement. (Zubaran and Foresti, 2011, Abstract).